A1 Leeming to Barton

Death, Burial and Identity
3000 years of death in the Vale of Mowbray

NAA Monograph Series Volume 4

G. P. Speed and M. Holst

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Heritage Consultants

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DEATH, BURIAL AND IDENTITY

3,000 YEARS OF DEATH IN THE VALE OF MOWBRAY

by

GREG P. SPEED AND MALIN HOLST

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SUMMARY

This volume is the first of three monographs that present the results of archaeological excavations between Leeming and Barton in North Yorkshire. The work took place between 2013 and 2017 as part of Highway England's upgrade of 19km of the A1 to motorway status. This first volume examines the extensive burial record from the road scheme—the excavations revealed 308 human burials at 14 locations, which ranged in date from the Early Bronze Age to the Anglo-Saxon period—and discusses the evidence in relation to what it can tell us about concepts of death, burial and identity and how these changed through time.

The A1 in North Yorkshire broadly follows the line of Dere Street Roman road. It is therefore unsurprising that most of the burials were found at the Roman town of Cataractonium *and its nearby satellite roadside settlement at Bainesse, both of which are located close to modern-day Catterick, as well as at a newly identified Roman roadside site at Scurragh House. Prehistoric cremation burials were found at four separate locations, including a Late Bronze Age cremation associated with a circular stone platform and pits containing calcined bone, pottery and other materials, which had subsequently been sealed by a small mound.*

At Cataractonium*, a number of infant burials and cremations were found inside the settlement area and Late Roman inhumations in back-plot locations at the rear of properties. In addition, a small group of late 2nd-century cremation burials, including a* bustum*-type, were located in association with the nearby Antonine fort. At Scurragh House, inhumation and cremation burials were excavated in back-plot locations and were associated with small square or trapezoidal arrangements, each of four small stakeholes, that surrounded these graves. However, the largest number of Roman burials—232 inhumation graves and 17 cremation burials—were from part of a cemetery excavated at Bainesse, which was in use from around the late 1st century until at least the mid-5th century.*

The concept of identity formed a major research theme for the project. The Roman burials exhibited a variety of grave furnishing and grave goods, and an extensive radiocarbon dating programme provided scientific dates for 151 of the burials spanning all periods. This evidence, alongside a comprehensive study of the surviving human remains, has been drawn together to provide a systematic analysis of the developments in burial rites through time. Combined with scientific analyses in the form of stable isotope analysis and Bayesian modelling of radiocarbon dates from Bainesse Cemetery, demographics, diet and changes in cemetery use have been explored to build a picture of the people who lived and died at these sites.

Differences in burial rites have been used to suggest that at least some of the burials represent the temporary presence of non-local peoples within the area, most likely associated either with military units or as veteran settlers in the Roman period. Other funerary rites, more localised either geographically or in time, are suggestive of family plots. Furthermore, the presence of cists, prone and decapitated burials, mainly amongst the latest burials in Bainesse Cemetery, are indicative of changing beliefs at the end of the Roman period. At a wider scale, combination of the results with data from earlier investigations at Cataractonium *and Bainesse has demonstrated broader variation in burial practice across the area, suggesting a diverse society with different groups of people burying their dead in different areas.*

The burials presented in this volume, particularly for the Roman period, present one of the largest and best dated assemblages from northern England. The multidisciplinary approach taken has provided a wealth of information on funerary behaviour in the area over a period of over 3000 years. For the Roman and early post-Roman period in particular, the results from the A1 scheme complement other recent work examining variation in funerary tradition across Roman Britain, and as such are of national, if not international significance.

RÉSUMÉ

Ici présent les résultats des fouilles archéologique entre Leeming et Baron, North Yorkshire. Entre 2013 et 2017 Highway England à améliorer 19 km de l'autoroute A1. Ce tome examine les enterrements rétablis pendent ces travaux. Les fouilles faites connaître à 308 enterrements à 14 lieus datant au période entre L'Age de Bonze et les invasions des Anglo-Saxons. Des différents auteurs discutent des preuves des façons de mourir, enterrer et d'exprimer une identité autant comment ils ont changé.

L'autoroute A1, North Yorkshire, suit la route romaine Dere Street. La plus grande partie des enterrements étaient découvert à la ville romaine Cataractonium et à son satellite au bord de la route a Bainesse, proche de la ville moderne de Catterick. D'autres trace funéraire étaient rétablis au nouveau site à Scurragh House. Des restes de crémation préhistorique ont été trouvé à quatre endroits différents, y compris une crémation datant de l'Age de Bronze associé à une plateforme circulaire en pierre et des puits qui avait contenue, avant d'être fermé par une bosse de terre: d'os calcifie, de la poterie et des autres matériels.

Nombreuse sépulture d'enfants et des crémations ont été trouvé à l'intérieure du peuplement à Cataractonium et des inhumations au bout du terrain derrière des parcelles. En outre, un petit groupe de crémations datant du fin 2ᵉ siècle, y compris un bûcher type bustum, trouvé à proximité et en association avec le fort Antonine. Les inhumation et crémation fouillé au bout de parcelles à Scurragh House étaient associer avec des arrangements, carré out trapézoïdal, chaque configuré par des trous de pieu qui entoure les tombes. Cependant, le plus grand nombre de sépultures romaines—232 inhumations et 17 crémations—provenaient d'une partie du cimetière mis au jour à Bainesse, qui était en usage a partir de la fin du 1er siècle au moins jusqu'au milieu du 5ᵉ siècle.

Le concept d'identité a constitué un thème de recherche majeur. Les sépultures romaines ont exposé une variété de mobilier et d'objets funéraires. Le programme extensif de datation au radiocarbone fourni les dates scientifiques pour 151 des sépultures couvrant toutes les périodes. Cette preuve, parallèlement a une étude approfondie des restes humaines, sont réuni pour fournir une analyse systématique du développement des rites funéraires au fil du temps. Combiné avec des analyses scientifiques sous forme d'analyse d'isotopes stable et de modélisation bayésienne les dates radiocarbone du cimetière de Bainesse, les données démographiques, le régime alimentaire et les changements dans l'utilisation des cimetières, ont été exploré pour construire une image des personnes qui ont vécu et sont décédées sur ces sites.

Les différences dans les rites d'inhumation ont été utilisées pour suggérer qu'au moins une partie des inhumations représente la présence temporaire de populations non locales dan la région, probablement associe soit à des unités militaires soit en tant que colons vétérans de la période romaine. D'autres rites funéraires plus localisés, que ce soit géographiquement, ou dans le temps, suggèrent des parcelles familiales. En outre, la présence de cistes, d'inhumations sujettes et décapitées, principalement parmi les dernières inhumations au cimetière de Bainesse, sont indicatif du changement en croyances à la fin de la période romaine. Vue plus large, la combinaison des résultats avec les données d'investigations précédentes menées a Cataractonium et a Bainesse a montré une variation plus large des pratiques d'inhumation dans la région, suggérant une société diversifiée avec différents groupes de personnes enterrant leurs morts dans différentes régions.

Les sépultures présentées dans ce tome, particulièrement de période romaine, présent l'un des assemblages les plus importants et les mieux datés du nord de l'Angleterre. L'approche multidisciplinaire a fourni une mine d'informations sur le comportement funéraire dans la région sur un période de plus de 3000 ans. Pour la période romaine et le début de la période post-romaine en particulier, les résultats du projet A1 complètent d'autres travaux récents examinant la variation de la tradition funéraire à travers la province romaine et en tant que tels, ont une signification nationale, si non internationale.

ZUSAMMENFASSUNG

An dieser Stelle werden die Ergebnisse der Ausgrabung „Leeming bis Barton“ in Nord Yorkshire vorgestellt. Die Ausgrabung wurde zwischen 2013 und 2017, im Rahmen der Erweiterung der A1, auf einer Strecke von 19 km, durch Highways England durchgeführt. Die Ausgrabung erbrachte 308 Bestattungen an 14 Fundstellen von der Bronze- bis Anglo-Sächsischen Besiedlung. Die Bedeutung von Tod, Bestattung und Identität sowie deren Änderung im Laufe der Zeit werden betrachtet.

Die A1 verläuft längs der römischen Straße „Dere Street“. Aus diesem Grund wurden die meisten Bestattungen in der Gegend von Cataractonium und seinem Satellitenort Bainesse am Straßenrand gefunden. Beides befindet sich in der Nähe des heutigen Ortes Catterick sowie der neu entdeckten römischen Straßenrandsiedlung Scurragh House. Prähistorische Feuerbestattungen, eingeschlossen einer Bronzezeit Bestattung, wurden an vier verschiedenen Fundstellen wahrgenommen. Letztere wurde zusammen mit einer runden Steinplatte und Kuhlen, welche kalzinierte Knochen, Keramik und andere Materialien enthielten und von einem Erdhügel bedeckt war, gefunden.

Verschiedene Kleinkind- und Feuerbestattungen wurden innerhalb der Siedlung, sowie spätrömischen Beerdigungen in Hinterhöfen entdeckt. Zusätzlich wurde eine kleine Gruppe Feuerbestattungen aus dem 2. Jahrhundert, eingeschlossen eines Bustum Typs, in der Nähe vom „Antonine Lager“ gefunden. In Scurragh House wurden Erd- und Feuerbestattungen in vormaligen Hinterhöfen ausgegraben. Diese stehen in Zusammenhang mit viereckigen oder trapezförmigen Arrangements von vier Pfostenlöchern. Die größte Anzahl römischer Bestattungen jedoch—232 Gräber und 17 Feuerbestattungen—waren Teil eines Friedhofs bei Bainesse, welcher vom 1.–5. Jahrhundert in Gebrauch war.

Das Konzept „Identität“ bildet den Schwerpunkt der Forschung dieses Projekts. Die römischen Bestattungen beinhalten verschiedene Grabbeigaben. Kohlenstoffdatierungen von 151 Bestattungen ergeben wissenschaftliche Daten zu allen Perioden. Diese Hinweise, neben allumfassenden Studien erhaltener menschlichen Überresten, belegen eine systematische Analyse von Bestattungsriten im Laufe der Zeit. Demographie, Ernährung und Änderungen der Friedhofnutzung wurden anhand von Isotopenanalyse und Bayesian Modellen der Kohlenstoffdatierungen erforscht, um ein Bild von den damaligen Lebensumständen und Tod der Menschen zu schaffen.

Unterschiede in Bestattungsrieten zeigen, dass mindestens ein Teil dieser Bestattungen eine temporäre Präsenz von nicht Einheimischen in der Gegend darstellt. Höchstwahrscheinlich waren diese Mitglied von militärischen Einheiten oder Veteranensiedler der Römischen Zeit. Andere Beerdigungsrieten, die entweder geographisch oder zeitlich eingeordnet sind, deuten auf Familiengräber hin. Des Weiteren sind die Gegenwart von Steinkisten, ausgestreckte oder geköpfte Skelette, welche sich vor allem auf die späten Begräbnisse des Bainesse Friedhofes beziehen, Beispiele für einen sich ändernden Glauben zu Ende der römischen Periode.

Aus einer weiteren Perspektive betrachtet, demonstriert die Verbindung dieser Ergebnisse zusammen mit früheren Untersuchungen bei Cataractonium und Bainesse eine breitere Variation in Bestattungen, was auf eine gemischte Gesellschaft, bestehend aus unterschiedlichen Gruppen, die ihre Toten in verschiedenen Gebieten begraben, schließen lässt.

Die Bestattungen, die in dieser Ausgabe vorgestellt werden, vor allem die der römischen Zeit, präsentieren eine der am größten und besten datierten Sammlung Nordenglands. Dieser multidisziplinäre Forschungsansatz bietet eine Vielfalt an Informationen über Beerdigungsrieten in der Gegend über einen Zeitraum der letzten 3000 Jahre.

Die Ergebnisse des A1 Projekts vervollständigen andere jüngste Forschung der römischen und frühen poströmischen Zeit, welche sich mit der Variation in Begräbnistradition in römisch Britannien beschäftigen und sind von nationaler wenn nicht internationaler Wichtigkeit.

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supported by Steven Collison. Alan Teasdale directly supervised works within the associated cemetery which forms a large part of the current volume. The excavations at Cataractonium were directed by Cath Ross and Stuart Ross, supported by Steven Collison, Julian Thorley and Des O'Donoghue, and those at Scotch Corner were directed by David W. Fell, supported by Alex Hartley and Henry Atherden. The post-excavation consolidation and analysis of the resulting archaeological record has been undertaken principally by the site directors, with the assistance of Steven Collison and Julian Thorley (Cataractonium), and Alex Hartley and Henry Atherden (Scotch Corner). On-site supervision at Bainesse, Cataractonium and Scotch Corner, along with several other sites, including the prehistoric site at Bowbridge Lane and the Roman roadside settlement exposed at Scurragh House, was undertaken by Alistair Zochowski, Anna Jedrzejewska, Craig Huddart, Eddie Dougherty, Jim Williams, Kath Bentley, Rafael Maya-Torcelly, Therese Falk and Tom Coates. Site survey was undertaken by Damien Ronan, Alice James, Freddie Sisson, Giles MacFarland and Óskar Sveinbjarnarson. The excavation teams would also like to express their gratitude to Greg Speed, who shared his broad archaeological knowledge of the A1 freely, whilst providing invaluable logistical support to all sites.

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In memoriam to the late Richard Fraser, NAA's Director and Project Manager for Archaeology on the A1 Leeming to Barton road improvement scheme. We hope we've done your project justice.

NAA—December 2018

Dedicated to

Richard Fraser
NAA Co-Founder and Director

who died with so much still to offer
4 July 1959 to 11 January 2018

For your leadership, humour, pragmatism, mentoring and friendship
You taught us to always have the strength and focus to find a way through

Without you this book would not have been written
It is a small token of all that we have lost and all that you have left behind

CHAPTER 1
INTRODUCTION

Greg Speed

This volume is the first of three monographs that present the results of archaeological excavations undertaken between 2013 and 2017 during the improvement of the A1 dual carriageway to motorway status between Leeming and Barton in North Yorkshire. The development work was commissioned by Highways England and the Carillion/Morgan Sindall Joint Venture (JV) were the Principal Contractors. Design input was provided by AECOM and Gronmij, which included development of the archaeological mitigation strategy and management of the archaeological fieldwork for the JV by AECOM. Atkins Global acted as consultants on behalf of Highways England. Historic England and North Yorkshire County Council Heritage Unit provided additional archaeological advice. The archaeological works were undertaken by Northern Archaeological Associates (NAA) on behalf of the JV. The upgrade of this section of road represents the final phase of development which, over the last 25 years, has seen the A1 transformed into a modern motorway between Darrington and Barton. Each stage of the works has been accompanied by archaeological mitigation that has resulted in several important archaeological publications (Tavener 1996; Roberts *et al.* 2001; Bishop 2005; Roberts 2005a; Brown *et al.* 2007a; Ambrey *et al.* 2017). Together, these road improvement schemes have presented a unique opportunity to develop an understanding of the people living in and travelling through the region in the past.

PROJECT BACKROUND

The Leeming to Barton A1 scheme comprised 19km of road improvements (SE 2800 9077 to NZ 2178 0823) that stretched northwards from Leeming Bar through the northern end of the Vale of Mowbray (Fig. 1.1). Passing Catterick, the route crossed the River Swale at Brompton and then ascended to Scotch Corner before descending towards Barton at the southern edge of the Tees Lowlands.

The A1 follows approximately the same route through North Yorkshire taken by its Roman predecessor 'Dere Street', which formed the north–south route between York and Hadrian's Wall, and subsequent incarnations of the Great North Road. Increased traffic in the 20th century led to construction of a dual carriageway, the A1(T), in the late 1950s, which included bypasses avoiding the two main settlements at Leeming and Catterick. Despite continued improvements to the road,

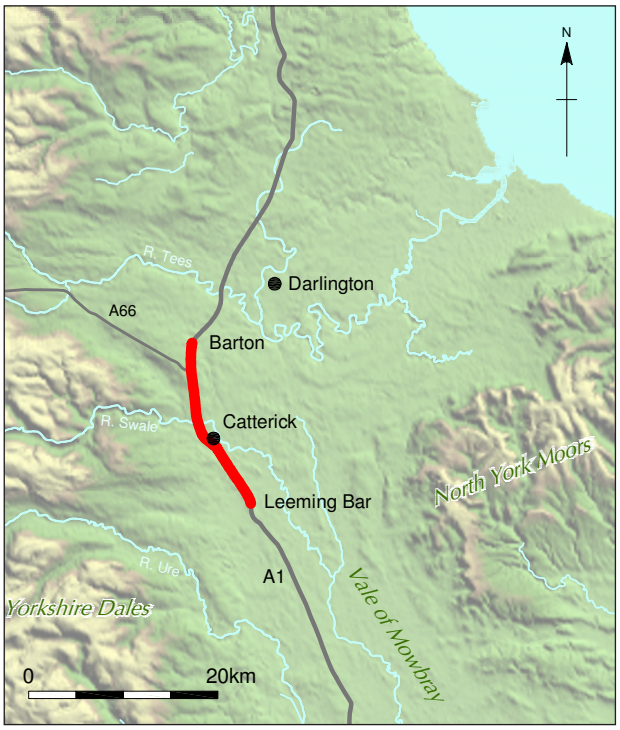


Figure 1.1: location and extent of the A1 scheme.

such as the excavation of a cutting at Scotch Corner in the early 1970s to bypass the earlier roundabout, by the early 1990s increasing traffic had prompted plans to upgrade the road to a six-lane motorway. Advance works (including archaeological assessment and evaluation works) continued until 1996, when the proposals for the road improvement were withdrawn. A scheme to upgrade the A1(T) between Dishforth and Barton was revived in 2004. Draft Orders for the scheme were published in March 2006 and a Public Inquiry was held in October 2006 as a result of objections raised. The Secretary of State's Decision Letter of 2008 resulted in the scheme being split into two halves, with the Dishforth to Leeming section commencing construction in 2009 and opening in 2012 (Ambrey *et al.* 2017). The second half of the scheme, from Leeming to Barton, was announced by the Chancellor of the Exchequer in December 2012, with an additional Public Inquiry in early 2014 for the local access works around Scotch Corner. Construction work began in March 2014, with the new motorway officially opened in May 2018.

Archaeological evaluation works associated with the proposed 1990s motorway scheme were undertaken

between 1993–95 and included geophysical survey, fieldwalking and trenching in the Catterick area by English Heritage Central Archaeological Services (Wilson 1994), and elsewhere by the former Lancaster University Archaeological Unit (LUAU 1994; Dennison 1996). Further evaluation was commissioned in the early 2000s to supplement the results of earlier work and inform the Environmental Statement for the new road scheme (Amec/McAlpine Joint Venture 2006, 335–390). This comprised geophysical survey (Hale 2005; 2006; 2007; O'Brien and Innes 2007), fieldwalking (Faber Maunsell 2006), trial trenching and monitoring of geotechnical investigations (Speed 2006a–e; 2008; 2010). Further geophysical survey, excavation and monitoring was undertaken in 2013 prior to the start of construction works (ASDU 2013; Speed 2014; Ross and Falk 2015).

PROJECT AIMS

The aim of the A1 scheme archaeological investigations was to mitigate for the impact of road construction works on extant archaeological remains. To achieve this, all archaeological remains discovered were recorded to the standards set out in the specifications and consents controlling work in order to 'inform a full fieldwork post-excavation and reporting methodology' (AECOM 2013a; 2013c). The work was required to fulfil the terms of the Scheduled Monument Consents for those excavations within scheduled areas and to meet guidance contained in the Design Manual for Roads and Bridges (Department of Transport 2007), in addition to commitments provided by Highways England in the Environmental Statement and at the subsequent Public Inquiry. The aim of the post-excavation programme was to undertake appropriate assessment and analysis of the archaeological records and assemblages, leading to publication and the deposition of the excavation archive with the York Museums Trust and the Archaeology Data Service (Russ *et al*. 2017). The work was undertaken in accordance with both national and regional archaeological standards and guidance (Petts and Gerrard 2006; CIfA 2014a–d; Historic England 2015).

THIS VOLUME

The A1 scheme passed through an area of known prehistoric and historic significance; however, the remains recovered exceeded the expectations of all those involved. In addition to the known scheduled Roman settlements at *Cataractonium* Roman Town and Bainesse (Heritage List nos 1021181 and 1021209 respectively), the excavations identified an extensive Late Iron Age and Early Roman settlement at Scotch Corner and investigated smaller sites ranging in date from the Early Mesolithic to the medieval period.

The quantity and quality of the evidence for Roman period activity was particularly exceptional and in recognition of this NAA, AECOM and Historic England developed five research themes as part of a detailed and focused post-excavation strategy (Russ *et al*. 2017):

- **First Contact**: When did contact between the indigenous Iron Age population and the Roman empire start in this area? How and when did changes take place? What evidence was there for the structure of the existing population and what was the nature of the first Roman presence? Did the nature of the population change?
- **Dere Street**: What influenced the line of Dere Street? To what extent was there an earlier routeway and how did this relate to settlement? What was the character, date and form of Dere Street in the area of the A1 scheme, and how did this compare to evidence from elsewhere in the North of England? What was the relationship of Dere Street to buildings within the settlements and what does this tell us about the character of the settlements?
- **Establishment, Consolidation and Retreat**: What was the rural context for the Roman settlement sites and how did it differ from or reflect the later Iron Age settlement pattern? What was the relationship between the main Roman settlement sites at *Cataractonium*, Bainesse and Scotch Corner. Were they in use at the same time? Which was established first? What was the phasing within the settlements? What was the relationship between the defended and undefended parts of *Cataractonium*? What was the relationship between these settlements and those within the wider landscape, such as Aldborough, Healam Bridge, Piercebridge and Bedale villa?
- **Death, Burial and Identity**: How did Roman burial practices vary between those found within settlements, those on the edge of settlements and those in more rural areas, such as Scurragh House? How did the burial practices relate to those seen elsewhere, particularly in the North of England? How does the assemblage inform us about the physical make up and character of the population? What can we learn about the origins, development, growth, diseases and death of individuals?
- I**ntra-site and Inter-site Deposition**: Is it possible to identify patterns of finds deposition reflected in materials and location? For example, are there associations of high status goods in pits, structures or boundaries? How do the artefact assemblages from *Cataractonium* and Scotch Corner compare? What was the form, function and distribution of finds and features within discrete sites?

This volume presents evidence that addresses Theme 4: Death, Burial and Identity. It is the first of three monographs that will present the main results of the scheme, with other specific elements covered in a series of shorter themed papers (e.g. Brogan 2015; Parker and Ross 2016; Speed and Cherry 2016; Fell 2017; Speed 2017; Gleba *et al.* 2018; Speed *et al.* 2018).

Until now, knowledge of death and burial in the area was derived from the study of c.300 individuals recovered from burials that range in date from prehistoric to medieval, with many being Roman or Anglian burials from *Cataractonium*, its satellite settlement at Bainesse, or their immediate hinterland (e.g. Wilson *et al.* 1996; Wilson 2002a; 2000b;). This evidence is summarised below and discussed in more detail in the following chapters as appropriate. However, the new evidence from the A1 scheme has significantly expanded the dataset from around *Cataractonium* and Bainesse, particularly for the Roman period, with a total of 232 new inhumations and 17 cremation burials discovered at Bainesse Cemetery alone.

STRUCTURE OF THE MONOGRAPH

The chapters within this monograph discuss the evidence for death, burial and identity that was recovered from the archaeological sites investigated as part of the A1 scheme. Chapter 1 presents the background to the construction project and the landscape through which it runs, as well as a summary of existing knowledge of local funerary practices prior to the 2013–17 excavations.

Chapters 2–5 present the excavated funerary evidence from the scheme (Table 1.1). These chapters focus on features specific to each of the excavated funerary sites in advance of the synthesis presented in Chapter 11. Chapter 2 details the small number of pre-Roman burials identified. Due to the limited number of prehistoric burials discovered during the excavations, a short discussion is presented following each site description, with an overall discussion section at the end of this chapter. Chapter 3 describes the evidence from the cemetery associated with the Roman settlement at Bainesse, together with smaller numbers of burials from excavations in the vicinity. Evidence from excavations at the Roman town of *Cataractonium* is presented in Chapter 4, while the results from the excavation of Roman and early medieval burials from a small number of other sites is contained within Chapter 5.

The osteological report on the human remains from the excavations is presented in Chapter 6, which discusses the demography and prevalence of pathology within the skeletal population recovered. This is then followed by chapters discussing the artefactual evidence recovered from burial contexts, including pottery (Chapter 7) and other grave goods, furniture fittings and coffin metalwork (Chapter 8). Discussion of the animal and plant remains associated with the burials is presented in Chapter 9.

Chapter 10 presents the results of two programmes of scientific investigation. The first comprises a study of diet based on the analysis of carbon and nitrogen stable isotope analysis of the human remains. This is followed

Table 1.1: summary of sites, burials and skeletal evidence organised by chapter.

Chapter	Site	No. inhumation graves	No. inhumation graves with skeletal evidence	Total no. of inhumed individuals	No. cremation burials
Prehistoric burials					
2	Killerby	-	-	-	1
	Scotch Corner	-	-	-	1
	Catterick Racecourse	-	-	-	1
	Bowbridge Lane	-	-	-	1
Bainesse Cemetery and surrounding area					
3	Bainesse Cemetery	232	121	127	17
	Field 163E	1	1	1	-
	Field 159A	4	3	3	-
Cataractonium					
4	Brompton West	22	22	27	2
	Brompton East	1	1	1	-
	Brough Park	-	-	-	6
	Fort Bridge	3	3	3	1
Other Sites					
5	Low Street	1	1	1	-
	Scurragh House	7	5	5	4
	Scotch Corner	3	3	3	-

by a discussion of the results of radiocarbon dating, which comprises one of the largest and most comprehensive programmes undertaken at a Roman cemetery in Britain to date, along with Bayesian statistical modelling of these results for Bainesse Cemetery. The full radiocarbon dating results are presented in Appendix D, which is available on the Archaeology Data Service (ADS).

As Chapter 2 provides a discussion of the prehistoric burials, Chapter 11 focuses on presenting the synthesis of the Roman and later burial evidence from the entire A1 scheme, including differences in location and type of burial areas, demography, burial practice, finds deposition and how these relate to the identity of the populations encountered. It draws together the different strands of evidence presented in the preceding chapters and the results are compared to evidence from other sites in the north of Roman Britain and elsewhere.

LOCATIONS OF BURIALS ON THE A1 SCHEME

The sites described in this volume were originally located geographically by their allocated field number. The initial sequence for the Leeming to Barton section of the A1 scheme ran from south to north, from Field 127 at Leeming Bar to Field 245 located to the west of the A1 Barton junction. Additional areas were allocated field numbers where required as the fieldwork programme progressed, and hence do not retain the same ordered distribution. In addition, some excavations were allocated suffixes where more than one distinct (and physically separate) area lay within the same field. For example, Field 163 was divided into several sub-areas, including 'central' and 'east', Fields 163C and 163E, respectively. In this monograph, field numbers, or groups of field numbers, have been allocated geographically appropriate names; for example, Field 145 is referred to as Bowbridge Lane and Fields 207–211 as Scurragh House. Appendix B (this volume) lists the fields crossed by the scheme, their location, modern civil parish and site name (where applicable).

Human burials were excavated at 14 sites, with disarticulated human bone found in one additional area. The general site locations are illustrated on Figure 1.2 and more detailed site specific plans indicating individual field and excavation locations can be found in Chapters 2–5.

To the south of Bainesse, burials were found at Bowbridge Lane (Field 145), Low Street (Field 261) and Killerby (Field 259).

At Bainesse (comprising Fields 156–165), burials were found in four areas. An isolated burial was found in Field 157, to the west of the Roman settlement, inserted into the silted ditch of a probable Roman temporary camp.

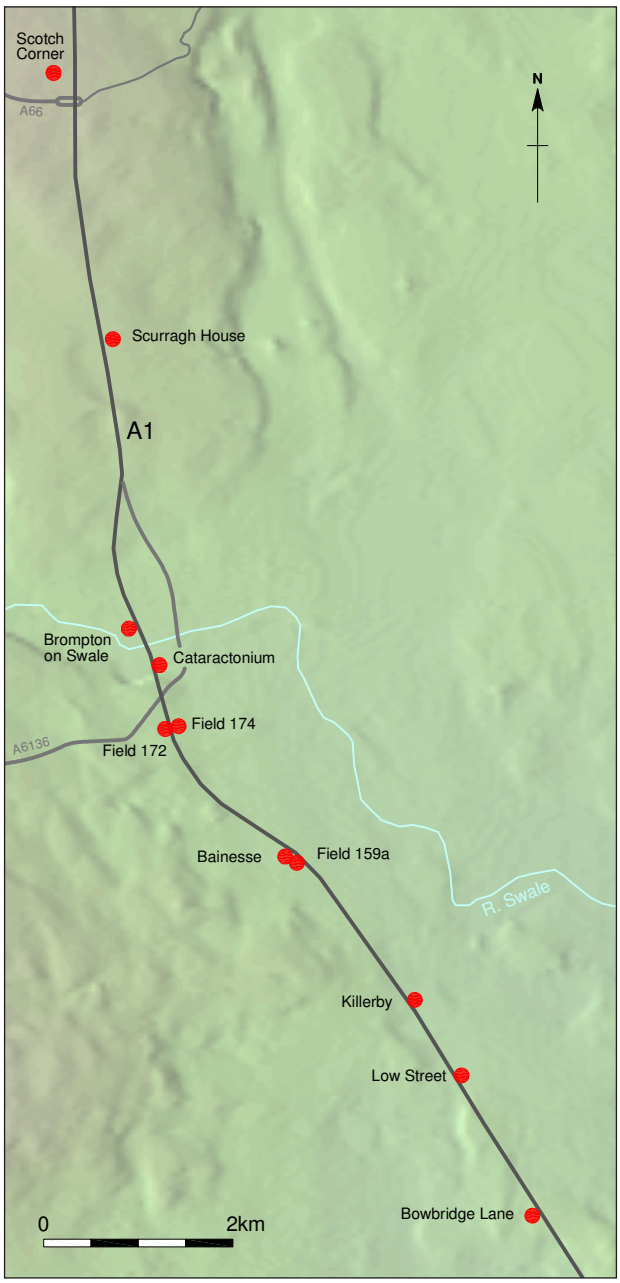


Figure 1.2: A1 scheme sites at which human burials were discovered.

Adjacent to the roadside settlement, several probable 'back-plot' burials were recorded in Fields 159A and 163E. To the west of the settlement, the western section of a larger cemetery was excavated, which is referred to in this volume as Bainesse Cemetery (Field 163C).

Burials were found at five locations within and adjacent to *Catarractonium* (Fields 172–179). To the south, a group of cremation burials was found at Brough Park (Field 172), while an isolated cremation burial and disarticulated bone were found in Catterick Racecourse (Field 174). Within the Roman town, several burials were found at Fort Bridge (Field 176FB). An assemblage of disarticulated human bone was also recovered during the excavation at Agricola Bridge (Field 176EC). On the north bank of the Swale, back-plot burials were found at Brompton West (Fields 177–8) to the west of the A1, while another burial

and an assemblage of disarticulated human bone were found associated with the corresponding Roman street-frontage at Brompton East (Field 179).

Between Brompton-on-Swale and Scotch Corner, Roman inhumations and cremation burials were found at Scurragh House, within Fields 209–211.

Finally, at Scotch Corner, large-scale excavations identified a cremation burial and four inhumations, which were dispersed across Fields 228, 258 and 265.

BACKGROUND INFORMATION

THE LANDSCAPE

The project area lies within the northern part of the Vale of Mowbray, a northward extension of the Vale of York, which is framed to the east by the North York Moors and to the west by the Pennine Dales (Fig. 1.3). At the northern end of the Vale, the route passes onto a ridge of higher ground separating the Vale from the Tees Lowlands.

The Vale of Mowbray contains the lower valleys of the River Ure and, to the north and east (in the area of the A1 road scheme), the River Swale. Most of the visible geomorphological and sedimentological features are a result of the Last Glacial Maximum (the Dimlington Stadial), with the Holocene beginning in the area from around 11,600 cal BC (Bridgland *et al.* 2011, 2–3).

As a result of glacial action, together with the nature of the underlying geology, the topography along the line of the A1 between Leeming and Barton is complex. The southern part of the route, north of Leeming Bar, runs from around 50m above Ordnance Datum (aOD) along the summit of the Leeming Moraine, a ridge of glacial sands and gravels, rising to a height of around 64m aOD at Bowbridge Lane. The route then descends to around 55m aOD as it crosses an area at Killerby, which is dominated by smaller gravel ridges and peat-filled kettle holes that formed during the last glacial retreat. Beyond this, as the route passes Marne Barracks and Catterick village, it crosses more level glacial and alluvial gravel terraces, although the revised route for the new motorway becomes more undulating. Once past Catterick village, the route crosses a series of morainic ridges (Bridgland *et al.* 2011, fig. 2.1).

The solid geology between Leeming and the River Swale consists of Permian Magnesian limestone and mudstones (British Geological Society 2018; Fig. 1.4). North of the Swale the route passes onto Carboniferous Millstone Grit, followed by Carboniferous limestone as it progresses onto the higher ground between Scotch Corner and Barton.

Immediately south of the River Swale lies a low hill formed from a limestone outcrop capped by glacial

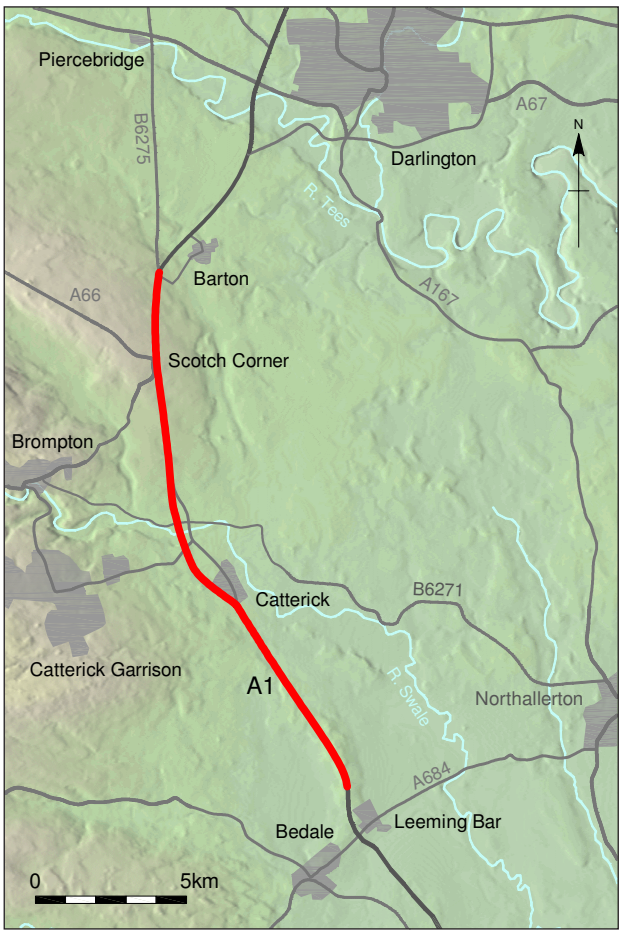


Figure 1.3: detailed location of the A1 road scheme.

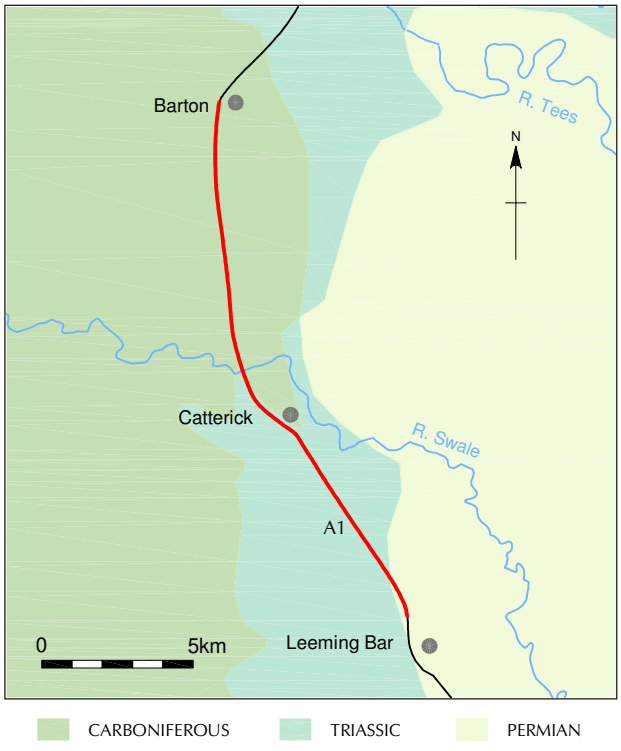


Figure 1.4: map of the solid geology underlying the area encompassing the A1 scheme.

boulder clay through which a cutting was created for the A1 in the 1950s. This hill was previously occupied by the Roman town of *Cataractonium*. The A1 crosses the Swale at Agricola Bridge and continues on an embankment across a series of alluvial gravel terraces (lying at a level of c.60–65m aOD) through the western part of Brompton-on-Swale, before beginning to rise out of the Swale valley towards Scotch Corner. This lies at an elevation of 150m aOD at the eastern end of a limestone ridge running westwards, which separates Swaledale from the Tees Valley to the north. The modern A66 follows this ridge westwards towards the Stainmore Pass and Cumbria. At its north end, the route descends into the valley of Waterfall Beck, to a level of c.105m aOD near Barton.

The southern part of the route follows the glacial sands and gravels of the Leeming Moraine, with similar, smaller, glacial landforms (e.g. moraines, eskers and drumlins) extending to the north-west (Bridgland *et al.* 2011, plate 2.1), which are crossed by the new alignment of the A1 to the west of Catterick (Fig. 1.5). Elsewhere in the Catterick/Brompton area, the drift geology is typically alluvial gravels deposited by the Swale, although *Cataractonium* overlies an area of boulder clay extending from the higher ground to the south-west. Boulder clay is also present throughout the route north of Brompton.

Between Leeming Bar and Bainesse, the soils are mapped as the Wick 1 Association; deep, well-drained, coarse loamy typical brown earths that are well suited to both arable cultivation and pasture (Soil Survey of England and Wales 1983; Jarvis *et al.* 1984, 302–5; Fig. 1.6). Where the new motorway route diverges away from the old A1 to the west of Catterick village, it passes over soils of the Brickfield 2 Association; slowly permeable, seasonally waterlogged, fine loamy soils, which are suited mainly to pasture with some arable use in drier areas (*ibid.*, 121–3). At *Cataractonium* and Brompton-on-Swale, the soils overlying the Swale terraces are also of the Wick 1 Association. As the ground rises north of Brompton towards Scotch Corner and Barton, the soils are again mapped as part of the Brickfield 2 Association.

ARCHAEOLOGICAL AND HISTORICAL BACKGROUND TO THE SCHEME

A study area extending 5km either side of the motorway construction corridor was defined to inform the archaeological background to the discussion present in this monograph. Where appropriate to the discussion within the following chapters, references have also been made to additional sites in northern England, elsewhere in Britain, and further afield, and their locations are shown on Figures 1.7 to 1.10.

Throughout this volume, a distinction has been made between modern Catterick (indicating the modern village and its environs) and the site of the Roman town, which lies a short distance to the north. The latter is referred to throughout by its Roman name of *Cataractonium* (Wilson 2002a, 10–11).

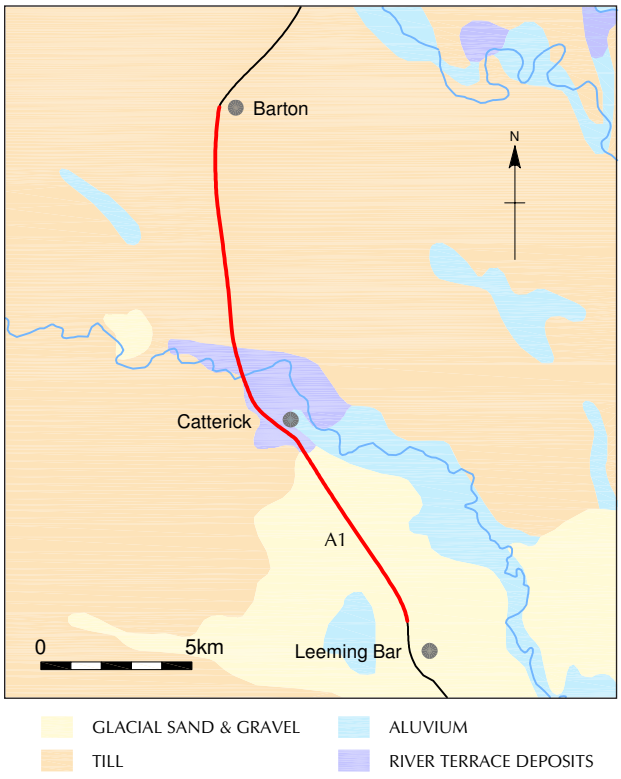


Figure 1.5: map of the drift geology within the area encompassing the A1 scheme.

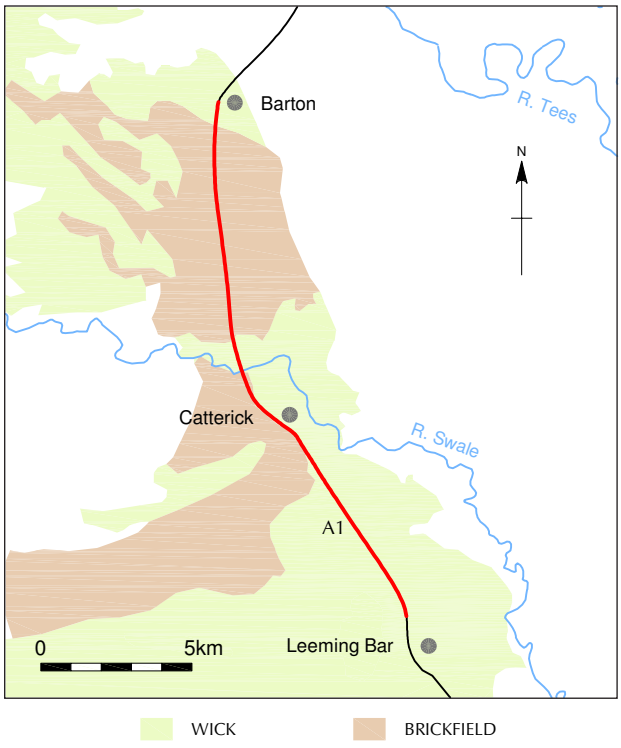


Figure 1.6: map of the soils within the area encompassed by the A1 scheme.

KEY: SITES MENTIONED IN TEXT

1 Jarlshof
2 Dun Beag Broch
3 Traprain Law
4 Cramond
5 High Rochester
6 Petty Knowes
7 South Shields
8 Wallsend
9 Newcastle
10 Halton Chesters
11 Chesters
12 Great Chesters
13 *Vindolanda*
14 Birdoswald
15 Hadrian's Wall
16 Herd Hill
17 Beckfoot
18 Maryport
19 Carlisle
20 Benwell
21 Corbridge
22 Chester-le-Street
23 Lanchester
24 Heathery Burn Cave
25 Brougham
26 Low Borrowbridge
27 Binchester
28 Dere Street
29 Sedgefield
30 Hartlepool
31 Catcote
32 Jack Hill
33 Hutton Buscel
34 Levisham Moor
35 Newbridge Quarry
36 Broughton Moor
37 West Heslerton
38 East Coast pipeline
39 High Wold
40 Sewerby Cottage Farm
41 Sewerby
42 Rudston Villa
43 Malton/Norton
44 Crambeck
45 Spellowgate to Kilham pipeline
46 Thornhome
47 Tophill Low
48 Driffield
49 Kirkburn
50 Wetwang Slack
51 Stamford Bridge
52 Hayton
53 Shiptonthorpe
54 Market Weighton
55 Welton Villa
56 Melton
57 Old Ellerby
58 Burton Constable
59 Westermost Rough
60 Easington
61 Easington to Ganstead pipeline
62 Winteringham
63 North Thoresby
64 Wetherby
65 Wattle Syke
66 Bramham
67 Micklefield
68 Dalton Parlours Villa
69 Parlington Hollins
70 Byram Park
71 Castleford
72 Darrington
73 Barnsdale Bar
74 Goldthorpe
75 Rossington Colliery
76 Doncaster
77 Adwick-le-Street
78 Ferrybridge
79 Silsden
80 Stanbury
81 Bradford
82 Stourton
83 Mitchel Laithes
84 Great Orme
85 Delamere
86 Ecton Hill
87 Derby
88 Lincoln
89 Horncastle
90 Ancaster
91 Sedgeford
92 Wall
93 Kirby Muxloe
94 Leicester
95 Lubbesthorpe
96 Nene Valley
97 Peterborough
98 Lackford
99 Godmanchester
100 Higham Ferrers
101 Harbury
102 Bletsoe
103 Welford on Avon
104 Talsarn
105 Pant y Butler
106 Baldock
107 Colchester
108 Stone Hall
109 St Albans
110 Shakenoak Villa
111 Gloucester
112 Horcott Quarry
113 Cirencester
114 Uley
115 Barton Court Farm Villa
116 Mucking
117 London
118 Yewden Villa
119 Caerleon
120 Pepper Hill cemetery
121 Holborough
122 Ospringe
123 Canterbury
124 Silchester
125 Winthill
126 Boscombe Down
127 Burbage
128 Winchester
129 Cannimgton
130 Somerton
131 Ilchester
132 Catsgore
133 Chichester
134 Poundbury
135 Whitcombe

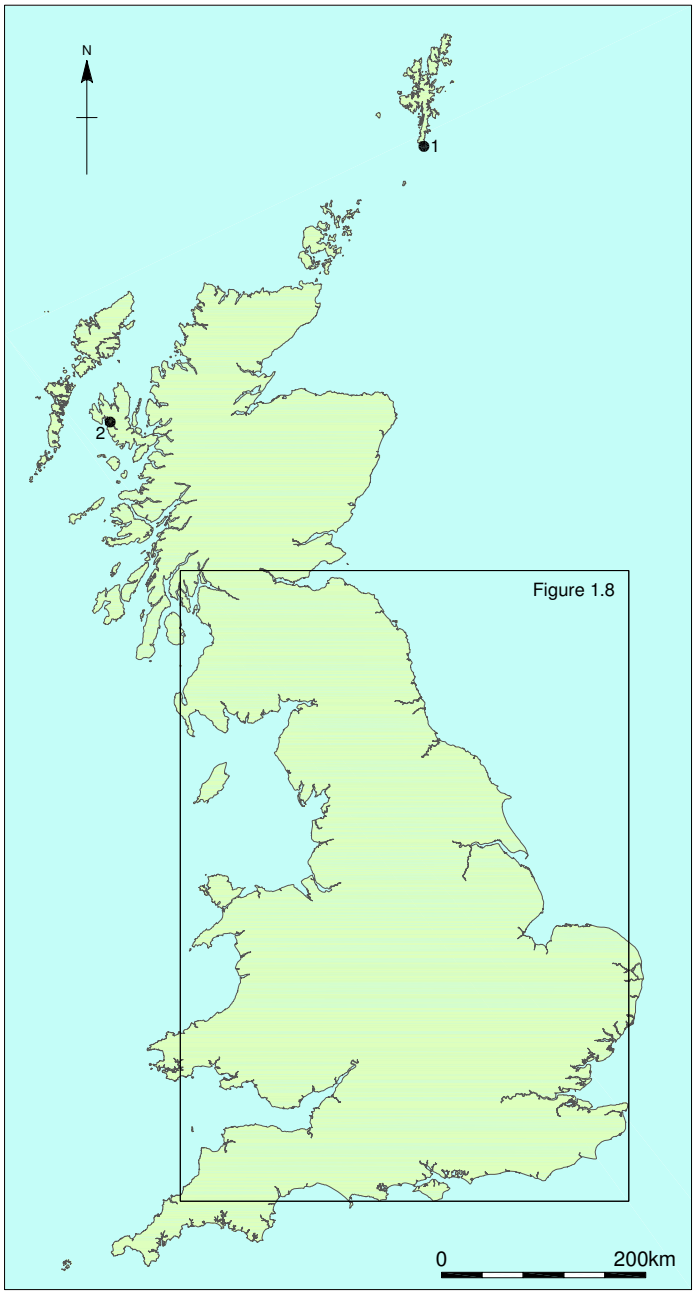


Figure 1.7: map of the British Isles indicating sites mentioned in the text.

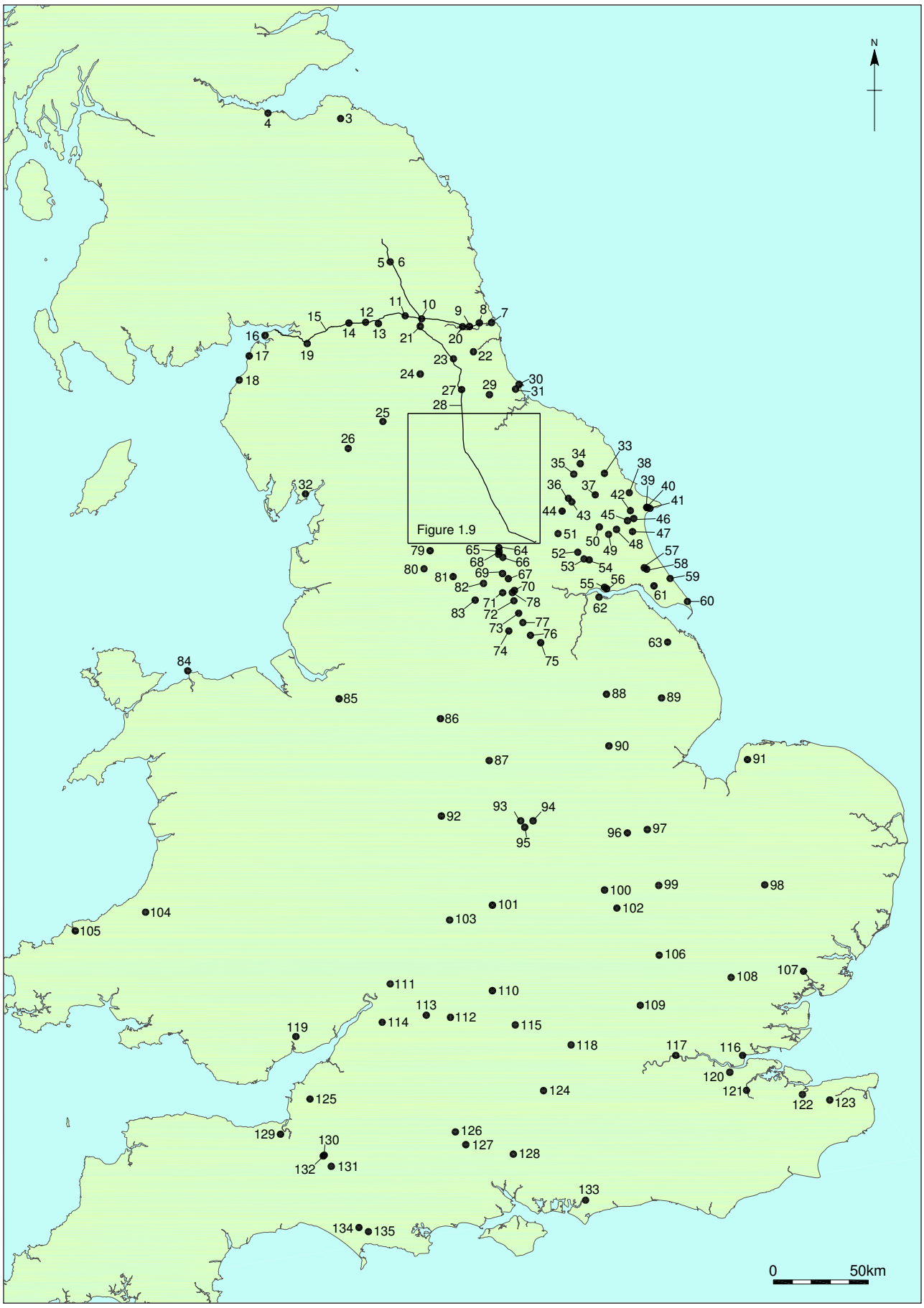
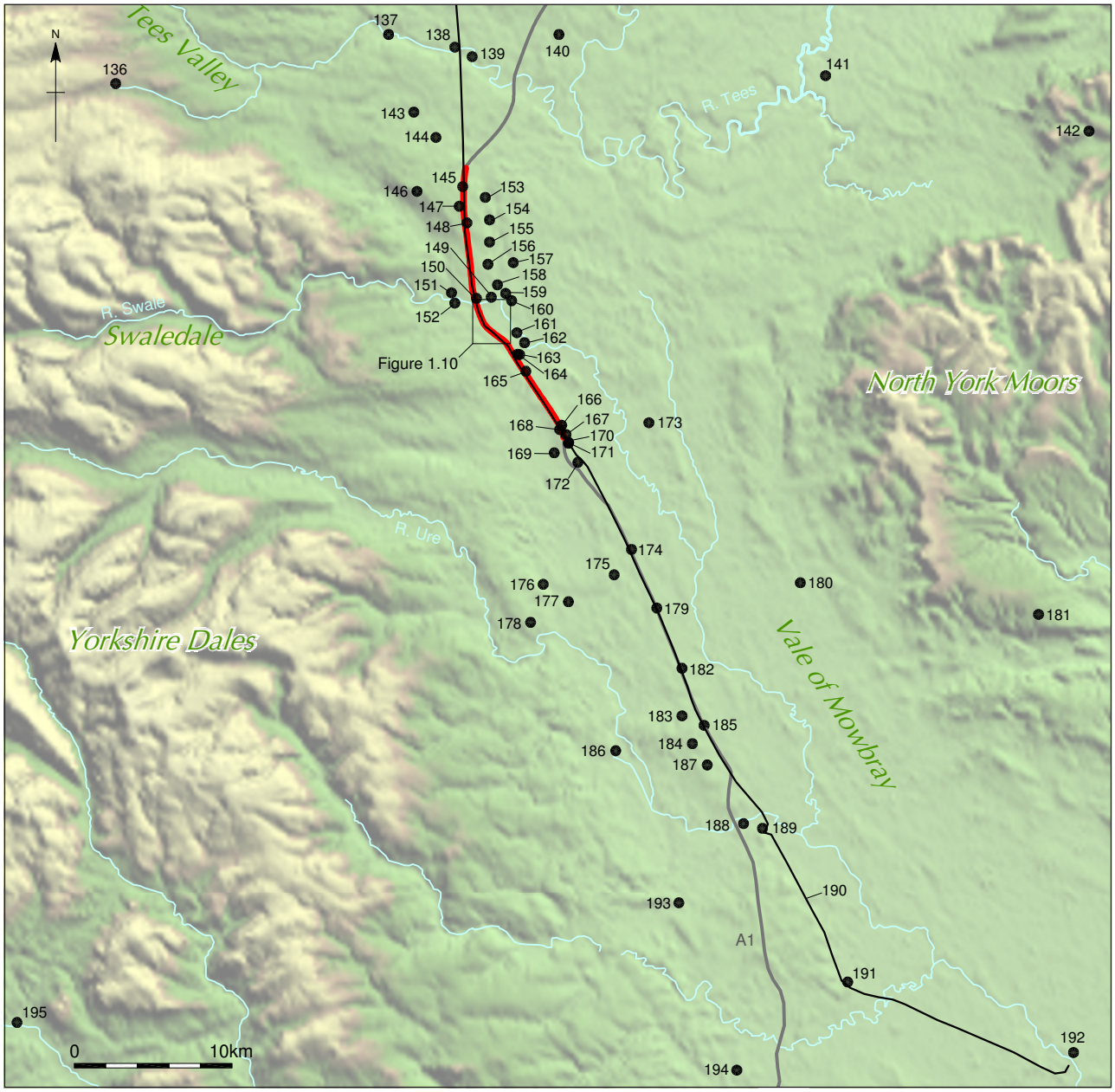


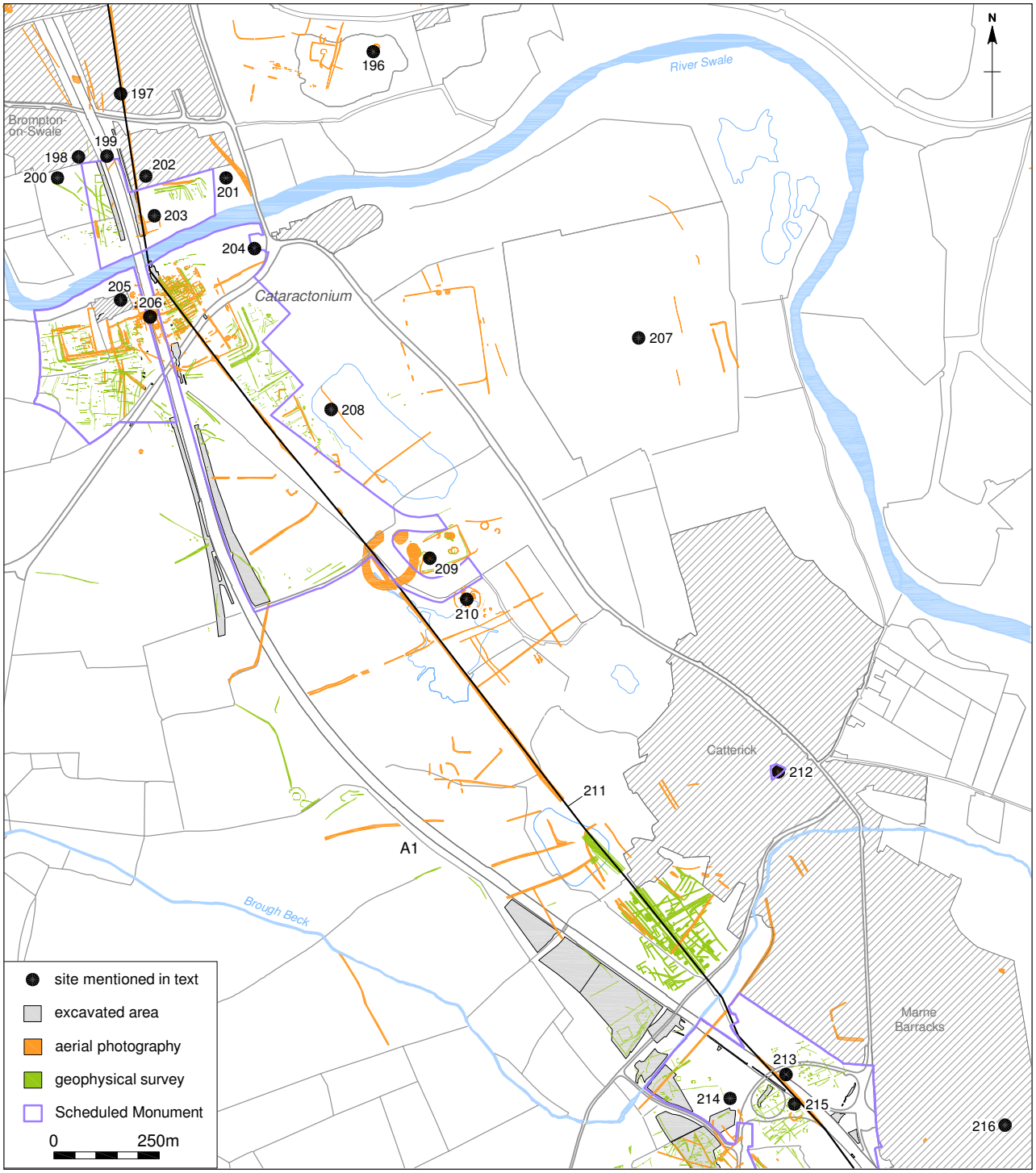
Figure 1.8: map of mainland Britain indicating sites mentioned in text.



KEY: SITES MENTIONED IN TEXT

136 Bowes
137 Gainford
138 Piercebridge
139 Holme House Villa
140 Faverdale
141 Ingleby Barwick
142 Pale End
143 Stanwick
144 Melsonby
145 Kneeton Hall
146 Rock Castle
147 Violet Grange barrow
148 Scotch Corner ring ditch
149 Grange Farm
150 Yorkshire Water Depot
151 Skeeby Beck
152 St Giles Farm
153 Five Hills barrow
154 Middleton Tyas villa
155 Moulton Hall
156 Gatherley Grange
157 Uckerby
158 Scorton Quarry 1976
159 Scorton Cursuses
160 Scorton Quarry 2007-11
161 RAF Catterick 1939, 1964
162 Castle Hills
163 Oran House
164 Marne Barracks ring ditch
165 Killerby
166 The Mount, Leeming
167 Leases Hall
168 Little Holtby
169 Bedale Villa
170 Fairfield House, Leeming
171 Leeming Bar
172 Leeming
173 Ainderby Steeple
174 Healam Bridge
175 Camp Hill, Carthorpe
176 Villa at Well
177 Nosterfield
178 Thornborough
179 Quernhow
180 Thirsk
181 Ampleforth Moor
182 Humphrey Balk Lane
183 Hutton Moor henge
184 Cana henge
185 Dishforth Road
186 Ripon
187 Marton-le-Moor
188 Boroughbridge
189 Aldborough
190 Dere Street
191 Green Hammerton
192 York
193 Occaney Beck
194 Green Howe
195 Gargrave

Figure 1.9: map of sites within the study area that are mentioned in the text and their relationship to the A1 scheme.



KEY: SITES MENTIONED IN TEXT

196 Hollow Banks Farm 1998
197 North of Bridge Road
198 Honey Pot Road (CfA Site 251)
199 Brompton drain trench watching brief 1978
200 Brompton Playing Field
201 Catterick Bridge (CfA Site 240) 1983
202 Bridge Road, Brompton 2002
203 Catterick 1972 (CfA Site 434)
204 Catterick Racecourse Carpark 1999
205 Thornborough Farm (CfA Site 452)
206 Catterick Bypass 1958-9 (CfA Site 433)
207 East of Catterick Racecourse (Bridge Farm)
208 Catterick Racecourse (CfA Site 273)
209 Catterick Racecourse 1995
210 Pallett Hill Quarry
211 Dere Street
212 Pallett Hill
213 Bainesse (CfA Site 46) 1981-82
214 Cowstand Farm 2000
215 Bainesse (Catterick Bypass) 1959
216 Bainesse Villa

Figure 1.10: map of previously excavated sites at Catterick in relation to aerial photography, geophysical survey, and areas excavated as part of the A1 scheme.

Prehistoric

Following the end of the last glaciation, the area of the A1 scheme was left covered by extensive deposits of sands, gravels and till, much of it forming morainic ridges. This was punctuated by melt-water channels, lakes, and water-filled kettle holes. From around 13,000 cal BC, the loss of the Dimlington Stadial ice sheet and resultant isostatic uplift encouraged the re-establishment of the main river courses and resulting valley incision in the periglacial landscape (Bridgland *et al*. 2011, 16–7). There is limited evidence for a Late Upper Palaeolithic presence from Yorkshire and the north-east of England (Manby 2003, 31; Petts and Gerrard 2006, 14). Within the Vale of Mowbray, a group of flint tools possibly dating to this period were found at Nosterfield (Dickson 2011, 273–4); however, none have been found in the vicinity of the A1 scheme.

During the early Holocene, the initial post-glacial landscape of tundra was colonised by species-rich grassland, succeeded in drier areas by shrubs, such as juniper, which were then followed by birch and hazel woodland by around 8000 cal BC (Spikins 1999, 89; Bridgland *et al*. 2011, 253–6). Following this, colonisation of elm, pine, oak and other species resulted in widespread mixed woodland. The developing environment attracted a range of game into the area, including deer, horses, boar, elk, aurochs, and smaller animals, such as hare and squirrels (Spikins 1999, 32–6). Archaeological evidence for such early fauna is scant in the study area, although both red deer and aurochs were present at Killerby in the Bronze Age (Speed 2010, 81–3). The area was attractive to Early Mesolithic people, and evidence for their presence has been found at several locations within the Vale of Mowbray in the form of scatters of flint tools, with a particular concentration of sites on or adjacent to the Leeming Moraine (Chatterton 2005, 136–60). One of these sites, Little Holtby, was excavated as part of the A1 scheme and produced a large assemblage of worked flint, as well as evidence for temporary structures, which date to c.8500–8300 cal BC (Speed *et al*. 2018). By the Late Mesolithic, human activity became more widespread and scatters of flint tools from this period have been found at a number of locations adjacent to the A1 scheme, usually close to wetland areas and particularly around the River Swale at Catterick (*ibid.*, 53), where two larger groups of material of Late Mesolithic or Early Neolithic date were excavated at Marne Barracks and Scorton Quarry (Young 2006; Rowe 2015).

Evidence for the Early Neolithic period in the area encompassing the scheme is limited to flint scatters and occasional small pits containing charcoal, pottery sherds and flints. However, by the later part of the 4th millennium cal BC, ritual monuments had begun to be constructed in the area. The largest of these was the Scorton Cursus, which was sited on the gravel terraces to the north-east of the River Swale, opposite Catterick (Topping 1982). This elongated rectangular ditched enclosure, measuring over 2.1km long, is now known to have crossed a second 'B' cursus. Together, these became the focus for other monuments during the later Neolithic and Early Bronze Age (Speed and Evans 2013, 28–30). Opposite this ritual complex, Neolithic and Early Bronze Age monuments are known to have existed on the south-west (Catterick) side of the Swale, which include another possible large cursus (see discussion in Chapter 2), small hengiform enclosures at Hollow Banks Farm (Speed 2005) and Bainesse, a larger probable henge monument (Moloney *et al*. 2003) and a substantial palisaded enclosure at Marne Barracks (Hale *et al*. 2009). One of the two small hengiform enclosures at Bainesse, which were discovered during evaluation of the new motorway route, was excavated during the A1 scheme (Speed 2010). Apart from a possible structure at Hollow Banks Farm (Speed 2005), no Neolithic domestic buildings have been identified in the area.

Although carbonised cereal grains occur in many Neolithic contexts across the Vale (e.g. Tavener 1996), there is no evidence for any large-scale arable cultivation, and in view of the lack of evidence for permanent domestic structures it is possible that a largely hunter-gatherer lifestyle persisted in the Vale into the Early Bronze Age. Pollen evidence from peat columns taken at Healam Bridge, just to the south of the A1 scheme, suggests that, although the area was wooded at the start of the 3rd millennium cal BC, there was some low-intensity clearance throughout the later Neolithic and the whole of the Bronze Age periods (Ambrey *et al*. 2017, 20), which was possibly for pasture given that no cereal pollen was recorded.

There is little evidence for Bronze Age activity within the area, aside from several barrows that remain largely unexcavated but are presumed to be mostly of Early Bronze Age date (Vyner *et al*. 2011, 215–6). The few casual finds and excavated features pertinent to the discussion present in this volume are described in more detail in Chapter 2.

There may have been a climatic downturn from the warmer, drier Middle Bronze Age to a cooler, wetter phase during the later 2nd and early 1st millennium cal BC (Late Bronze Age/Early Iron Age; Bridgland *et al*. 2011, 264–6), although Tipping (2016) has shown that the evidence for this is currently inconclusive. Nevertheless, the pollen record from Healam Bridge suggests rapid and widespread woodland clearance in the Vale of Mowbray from the Early Iron Age, initially for pastoralism but with evidence for the cultivation of

cereals appearing early in sequence (Ambrey *et al*. 2017, 26). The climate continued to improve, probably reaching a peak in northern England in the late pre-Roman Iron Age (Passmore and Waddington 2012, 230). The first widespread enclosure of the landscape in the A1 scheme area occurred during the Iron Age, with field systems recorded across the Vale (e.g. Ambrey *et al*. 2017, 26–7), including parts of the A1 scheme and the Swale gravel terraces to the east (Speed and Evans 2013, 46–7). The first clear evidence for extensive settlement in the Vale also appears during this period, although most of the sites identified to date are concentrated either to the south of Leeming or the north of Catterick village (Ambrey *et al*. 2017, fig. 11), with many represented only by findspots of beehive querns (Heslop 2008, 97–8 and 101). However, several discoveries near Leeming, including debris from large scale Early Iron Age iron smelting, a trackway and field system, and a Late Iron Age settlement enclosure (Prospect Archaeology 2015; Ambrey *et al*. 2017, 21–6), in addition to evidence from the A1 scheme (see Chapter 2), suggest that activity was more widespread than has previously been realised.

Evidence for Iron Age activity has been found at locations near the River Swale to the north of Catterick (Speed 2010, 85), and the A1 scheme excavations have demonstrated that this distribution of rural settlement, namely field systems interspersed with farmstead sites, continued northwards along the line of the A1 corridor. By the Late Iron Age, the area encompassing the A1 scheme lay within the territory of a people named by classical authors as the Brigantes (Haselgrove 2016, 472–6). Late Iron Age sites that have previously been excavated at Scotch Corner (Abramson 1995a; Zant and Howard Davies 2013, 55–80) have been shown to have formed part of a larger settlement by the A1 scheme excavations (Fell forthcoming). The Scotch Corner site is located only 7km to the south-east of the major fortified site at Stanwick, which has been interpreted as the Late Iron Age royal centre of the Brigantes (Haselgrove 2016, 453–7). Nearby, other Late Iron Age sites are also known from Melsonby and Rock Castle (*ibid*., 328–50), and numerous settlement sites have been identified within the Tees Valley (Sherlock 2012).

Roman

By the middle of the 1st century AD, the first Romans in the northern Vale of Mowbray are likely to have entered a landscape with large areas cleared of woodland (Bridgland *et al*. 2011, 268; Ambrey *et al*. 2017, 27) that was divided into fields served by trackways and interspersed with small farmsteads, albeit with larger Late Iron Age settlements, such as those at Scotch Corner and Stanwick. Based upon classical sources, the history of Roman military expansion into the area included some temporary intervention during the mid-AD50s in support of Cartimandua, queen of the Brigantes, against her consort, Venutius. Further troubles ultimately led to the Roman annexation of the Brigantian territory c.AD71. However, the evidence from Scotch Corner suggests that there was a more permanent, possibly non-military, Roman presence by the Neronian period (AD54–68; Fell 2017, 18; forthcoming).

The route of the modern A1 in the area generally follows (and overlies) the line of the Roman road known as Dere Street (Road 8b; Margary 1973, 428–9 and fig. 14), which ran from York to Corbridge and into Scotland. To the south, it connected to the Roman Ridge road via Castleford and Doncaster, providing a more direct route to Lincoln and the southern part of the Roman province. As such, it was one of the main communications and supply routes to the northern frontier. Sites apparently pre-dating construction of the Roman road, such as Roecliffe fort at Boroughbridge, suggest that the Romans initially made use of an existing prehistoric route into the north of Britain, with Dere Street constructed sometime after AD85 (Bishop 2005, 219; 2014, 18).

At Catterick, construction of the Catterick Bypass from 1959 meant that the line of the modern road deviated to the west of the Roman route between Bainesse and the northern end of Brompton-upon-Swale. The upgrade of the A1 to motorway status has moved the line of the road even further to the west, from a point south of Bainesse to the southern edge of the Roman town at *Cataractonium*. Immediately north of Scotch Corner, another short section of Dere Street lies to the west of the A1, in this case due to a deviation in the line of the Roman road where it intersected with another major route leading westwards toward the Stainmore Pass (Road 82; Margary 1973, 433–6). Dere Street may have followed the general line of a prehistoric route through the northern Vale of Mowbray, and at Scotch Corner its alignment appears to have been constrained by existing trackways (Vyner 2007; Harding 2013, 206–7; Ambrey *et al*. 2017, 127–8; Fell 2017, 15–6).

A fort was established adjacent to the Swale crossing at *Cataractonium*, which lay roughly halfway between the legionary fortress at York and the northern frontier. While discussing several possibilities, Wilson (2002b, 446–8) suggests an initial date for the fort of around AD80. To the east was a bathhouse (possibly part of a mansio), which may have been inside an annexe to the fort. The surrounding settlement may have been involved in the supply of leather goods, probably to the army, based on the recovery of large numbers of leather items, such as footwear, tents and shield covers, during the Catterick

Bypass excavations. In addition, *Vindolanda* writing tablet 343 refers to hides being sent from *Cataractonium*, although whether tanning occurred there has been questioned (Bowman and Thomas 1994; Wilson 2002b, 455; Douglas 2015, 38–9). The Flavian fort was possibly abandoned around AD120 but was succeeded by an Antonine-period fort on the same site. In the early 2nd century, part of the settlement on the north bank of the Swale was temporarily fortified with a short-lived rampart and ditch. The Antonine fort may have been abandoned around the beginning of the 3rd century, and it has been suggested that a final fort and stone defences around the Roman town were constructed in the late 3rd or early 4th century (*ibid*., 458–62). The town was laid out in planned *insulae*. It seems to have a strong manufacturing economy, including pottery and pewter production, and is thought to have become a regional economic hub that was connected to a wide trade network. Extensive areas of extra-mural settlement lay along the line of Dere Street to the north and south, as well as possibly to the east of the town, and to the south of the fort.

Cataractonium was only one of a series of settlements established along Dere Street to the north of York. The important walled town of *Isurium Brigantum* (Aldborough, SE 405 665), which held the status of *civitas* capital of the Brigantes (Hartley and Fitts 1988, 39–46), was located 37km to the south-east of *Cataractonium*. Healam Bridge, a large roadside settlement that appears to have specialised in horse and mule breeding, was located halfway between Aldborough and *Cataractonium* (at SE 322 837; Ambrey *et al*. 2017). Smaller settlements were distributed along this part of the road, at Dishforth Road (SE 368 730), Humphrey Balk Lane near Baldersby (SE 354 766) and Leeming (SE 288 896) (Robinson 2007; Ambrey *et al*. 2017).

The roadside settlement at Bainesse, 2km to the south of *Cataractonium*, was already established by the Flavian period. The settlement continued to develop throughout the Roman period, with stone buildings gradually replacing timber. However, Wilson (2002b, 471) has suggested that the settlement was in decline during the late 3th and 4th centuries.

To the north of Catterick, the A1 scheme found evidence for a short-lived small roadside Roman settlement at Scurragh House (see Chapter 5). Further north along Dere Street, Roman activity at Scotch Corner seems to have declined by the end of the 1st century, although there is evidence for some later occupation of the site (Fell forthcoming). Beyond Scotch Corner, Dere Street led northwards towards the forts and *vici* at Piercebridge on the Tees crossing and Binchester on the River Wear (Cool and Mason 2008; Ferris 2010a).

Relatively little is known about the arrangement of the agricultural landscape to either side of the Roman road in the study area, although many Late Iron Age farmsteads in the region continued in use into the later period (Sherlock 2012, 121). In addition, some areas of field systems, typically consisting of enclosures of a comparable size to many of the modern fields in the area, have been recorded, particularly on the Swale gravel terraces to the north-east of *Cataractonium* (Speed 2005; Speed and Evans 2013). By the later Roman period, much of the land may have formed the estates of a series of villas, typically located at some distance from Dere Street. Within the study area, an example has been excavated near Leeming (SE 273 902; Prospect Archaeology 2015), with other less definitive sites located at Bainesse (SE 245 972; Wilson 2002b, 469), Uckerby (c.NZ 247 022; Thorpe 1975, 4) and Middleton Tyas (NZ 232 049; North Yorks. HER MNY32350).

Post-Roman and Early Medieval

Despite the difficulties of identifying 5th-century Roman material culture, stratigraphic evidence shows that the occupation at *Cataractonium* continued for some time after AD410 and there may have been some continuity between Late Roman and Anglian activity (Wilson 2002b, 473–5). The A1 scheme excavations have demonstrated a Roman presence at both *Cataractonium* and Bainesse in the first half of the 5th century, represented by continuing occupation within the town and use of Bainesse Cemetery, although it currently remains unclear how long culturally 'Roman' activity continued. Currently, the earliest 'Anglian' evidence at Catterick (based on stylistically diagnostic grave goods) has been dated to the late 5th or more probably 6th century (Wilson *et al*. 1996, 51; Moloney *et al*. 2003, 29).

Until recently, evidence for Early Anglian settlement at *Cataractonium* and Bainesse consisted primarily of a small number of widely spaced small sunken-floored buildings cut into earlier Roman remains, and small quantities of pottery (Wilson *et al*. 1996). This was in contrast to the large number of 6th- to 7th-century burials found in the area (discussed further below) and a number of historical references. The poem *Y Gododdin* describes the events leading to an attack on *Catraeth* (commonly considered to be Catterick), which is suggested to have taken place in the late 6th century (Alcock 1983). Bede mentions Catterick (described as a *vicus*) several times, particularly mass baptisms undertaken there in c.627 by Paulinus, while Simeon of Durham describes further events in the 8th century, including two royal weddings and the burning of Catterick by Earnred in AD769 (Stevenson 1987). These references suggest that Catterick was an important Northumbrian royal site.

Discovery of a post-built Anglian building in Catterick village could suggest that the settlement lay in that area (Young 1997), although evaluation and excavation works for the A1 scheme have identified Anglian settlement and possible maintenance or refurbishment of the defences at *Cataractonium* (Speed 2008, 7; Ross and Ross forthcoming). In the absence of evidence to the contrary (such as new Anglian field systems), it appears likely that the agricultural landscape continued largely unaltered from the Late Roman/early post-Roman period.

Dere Street: continuity of use

It has been suggested that Early Anglian settlements favoured locations close to Dere Street. However, from the 8th century, settlement seems to have been set back from the road (Vyner *et al*. 2011, 229), creating the pattern seen today. The exceptions are Leeming, apparently created *do novo* at the beginning of the 13th century (Ross and Speed forthcoming), and Catterick.

There is little evidence for Catterick in the later Anglo-Saxon period, although the Domesday Book listed it as one of the richest manors in the area, and a motte and bailey castle was constructed next to the Swale at Castle Hills to the south-east of the village.

Although relatively little is known about the road network in the post-Conquest period, the section of Dere Street immediately to the south of the A1 scheme was referred to in a charter of 1202 as "the King's high road from Boroughbridge to the bridge of Lemming [Leeming]" (Page 1914, 403). Its continued status is attested by the number of battles that occurred close to its route, albeit all to the south of the current study area, which include Myton (1319), Boroughbridge (1322) and Marston Moor (1644).

At Catterick, continued use of Dere Street is less clear in the medieval period. Although the Manor House lies adjacent to the Roman route, the main road from the south appears to have turned east before reaching the village, moving across to the River Swale and then approaching the village from the south-east along what is now Oran Lane (the route is recorded as 'old road' on the First Edition Ordnance Survey map). Part of the line of Dere Street running past Marne Barracks was reinstated as the main approach to Catterick village from the south when the route was turnpiked in the early 19th century. The village layout makes it clear that the line of Dere Street running northwards from the Manor House towards Catterick Bridge also became disused during the medieval period, if not before. This may have been precipitated by the final collapse of the Roman bridge at *Cataractonium* and its replacement by an alternative crossing c.1.5km upstream at St. Giles Farm (Cardwell 1995, 109–10). How long this extensive detour was enforced is unclear, although the contract for the existing medieval bridge at Catterick Bridge (constructed between 1421 and 1425) required the masons to build it "be twix the olde stane brigg and ye Newbrigg of tree" (NYCRO ZRL 1/23; Salzman 1952, 497–99). The "olde stane brigg" is likely to have been the remains of the Roman bridge. The "Newbrigg of tree" was presumably a medieval wooden bridge downstream, which may have dictated the alignment of the existing road northwards from Catterick village past Catterick Racecourse, which has to turn sharply to approach the 15th-century stone bridge.

In the early post-medieval period there is little documentary evidence for Dere Street; however, some information can be gleaned from other sources. Camden (1607, paras. 61 and 63) noted the "High street way which the Romans made" at Catterick and also the road junction at Scotch Corner. The journal of Sir William Brereton, describing his travels in 1635, is also of particular interest. Part of his itinerary followed Dere Street northwards to Catterick Bridge and he describes the road as a "straight level way" (Hodgson 1915, 8). His route demonstrates that Dere Street was still the preferred route northwards through the Vale of Mowbray and into County Durham in the early 17th century, despite it bypassing the major towns of the area such as Thirsk, Northallerton and Durham.

The section of the Dere Street route from Boroughbridge to Piercebridge was turnpiked in 1743, enabling the turnpike trust to levy tolls from road users in order to pay for its upkeep and improvement. By 1835, Lewis' Topographical Dictionary for England described it as "a fine specimen of the improvements made in public roads in modern times" with its Macadamised surface, part of which was recorded at Healam Bridge (Ambrey *et al*. 2017, 155). Since that time, the route has seen continuing improvement, culminating in its upgrade to motorway status.

Previous archaeological investigations

The area of the A1 scheme has been the subject of antiquarian and archaeological investigation over the last two centuries, most of which has been centred upon the Roman remains at *Cataractonium* and Bainesse. The majority of investigations at these two sites were the subject of a comprehensive publication by Wilson (2002), as were Anglian finds in the area (Wilson *et al*. 1996). The history of archaeological exploration of the area is therefore only summarised here.

Antiquarian excavations around the Roman town and fort at *Cataractonium* in the 19th century, primarily by

Sir William Lawson of Brough Hall, mainly concentrated on tracing the lines of the stone defences (Wilson 2002a, 23–5). The first modern investigation at *Cataractonium* was undertaken by E. J. W. Hildyard in 1939 in response to a proposal to build a bypass diverting the A1 to the west of Catterick village, the new route cutting through the centre of the Roman town (*ibid*., 27). However, the road scheme was postponed because of the Second World War. In 1939, Hildyard (1955) partially excavated a Roman building at RAF Catterick (now Marne Barracks), and subsequent small excavations are suggested to have revealed further evidence for this (Cramp 2002a; Wilson 2002a, 32; Sherlock 2017, 82–5). In 1952, Hildyard returned to *Cataractonium* to excavate a trench within the Roman town (Hildyard 1957; Wilson 2002a, 27).

A renewed impetus to investigate the Roman town resulted from development of the A1 bypass, leading to the 1958–59 excavations on behalf of the Ministry of Works, which were first undertaken by Hildyard and later by John Wacher (Wilson and Wacher 2002, 46–122). Until the A1 scheme, this was by far the largest investigation undertaken at *Cataractonium*. Apart from several watching briefs in the 1980s and 1990s, there was little further investigation of *Cataractonium* to the south of the River Swale aside from small excavations at Thornborough Farm, the site of the Roman fort, in 1990 and 1993 (Thorpe and Wilson 2002).

To the north of the river, intermittent monitoring and excavation during the construction of the former Cadbury-Schweppes factory between 1968 and 1970 recorded the line of Dere Street, some Roman buildings and a number of other features (Thubron *et al.* 2002). In 1972, John Wacher excavated in the area between the new factory and the Swale, which revealed roadside structures at the east side of Dere Street and a short-lived defensive perimeter (Wilson and Wacher 2002, 122–38). Between the new factory and Catterick Bridge to the east, research excavations were undertaken between 1971 and 1980 by the Richmondshire Excavation Group, with further work carried out by the Central Excavation Unit in 1983 (Wilson 2002a, 185–205). This revealed a sequence of Roman and Early Anglian activity. To the west, on the opposite side of the A1, a watching brief in 1978 led to land at Honey Pot Road being excavated prior to housing development in 1983, revealing part of a Roman enclosure (Wilson 2002a, 205–8). Further north, the only find of any note was a series of burials of uncertain date recorded at the Brompton Yorkshire Water Depot in 1987 (Thubron 2002), which were placed with reference to Dere Street.

To the south of the Roman town, geophysical survey and trenching in 1984 demonstrated the presence of the remains of Dere Street and roadside settlement within the circuit of Catterick Racecourse (Wilson 2002a, 209–16). To the south of the racecourse, Pallet Hill Quarry has removed much of the line of Dere Street and any associated features; however, H. G. Ramm recorded the top of a possible Roman well at Pallett Hill Quarry and a section across Dere Street in 1964, whilst another section was recorded by Brewster in 1969 (*ibid.*, 30). Excavations at Catterick Triangle in 1987–88 recorded more of Dere Street (Cardwell and Wilson 2002). Further evidence for the Roman road and a series of side roads flanked by buildings and other features was discovered between 1980–82 in advance of construction of the A1 Catterick South flyover (CfA Site 46; Wilson 2002a, 139–85). Considerable additional archaeological recording has taken place in the area. While much of this work is still in the process of being formally published, the majority of the relevant information can be found in unpublished grey literature and has been referenced where appropriate.

Prior to the A1 scheme, most of the investigations at *Cataractonium* and Bainesse have been small-scale and only added minor detail to our understanding of Roman activity at these sites, the exception being an excavation in advance of construction of the Thomas Armstrong concrete block factory in 2002, which recorded the settlement sequence of part of the northern edge of *Cataractonium* (Speed 2004). More significant has been the geophysical survey and open-area excavation of large areas surrounding the Roman settlements, together with the availability of aerial photographic plotting and LiDAR survey. Extensive archaeological monitoring and excavation has been undertaken during the development of the former Catterick Aerodrome for Marne Barracks, and in advance of sand and gravel extraction at Catterick Racecourse, Bridge Farm, Hollow Banks Farm and Scorton Quarry (e.g. Moloney *et al.* 2003; Speed 2005; Rose 2012; Speed and Evans 2013). The most significant results from this work has been a re-evaluation of the extent and complexity of the prehistoric ritual landscape at Catterick/Scorton, and the recording of parts of the Late Iron Age and Roman agricultural landscape that formed the hinterland of the main Roman settlements, including the Iron Age and Roman farmstead site at Grange Farm 2km to the north-east of *Cataractonium* (Copp and Roe 1996; 1997).

Given the essentially rural nature of the northern Vale of Mowbray, there have been relatively few archaeological investigations of note elsewhere within the study area. Around Leeming, several sites have been investigated in advance of small-scale development, with more substantial works associated with construction of the Bedale Bypass, which took place concurrently with

the A1 scheme. These investigations have indicated some form of Roman settlement close to Dere Street in the area of the modern village, and the bypass scheme investigated an Iron Age enclosure and part of a Roman villa in fields to the west (Prospect Archaeology 2015). The medieval Hospital of St. Giles, located 1.5km to the west of *Cataractonium*, was the subject of a major research excavation between 1988 and 1990 (Cardwell 1995). A small excavation at the former Scotch Corner Hotel identified Late Iron Age settlement remains, and subsequent work during widening of the A66 recorded further evidence of this settlement and examined multi-period remains to the west (Abramson 1995a; Zant and Howard Davis 2013). To the north of the A1 scheme, there have been excavations of the Iron Age *oppidum* at Stanwick and at Melsonby (Haselgrove 2016).

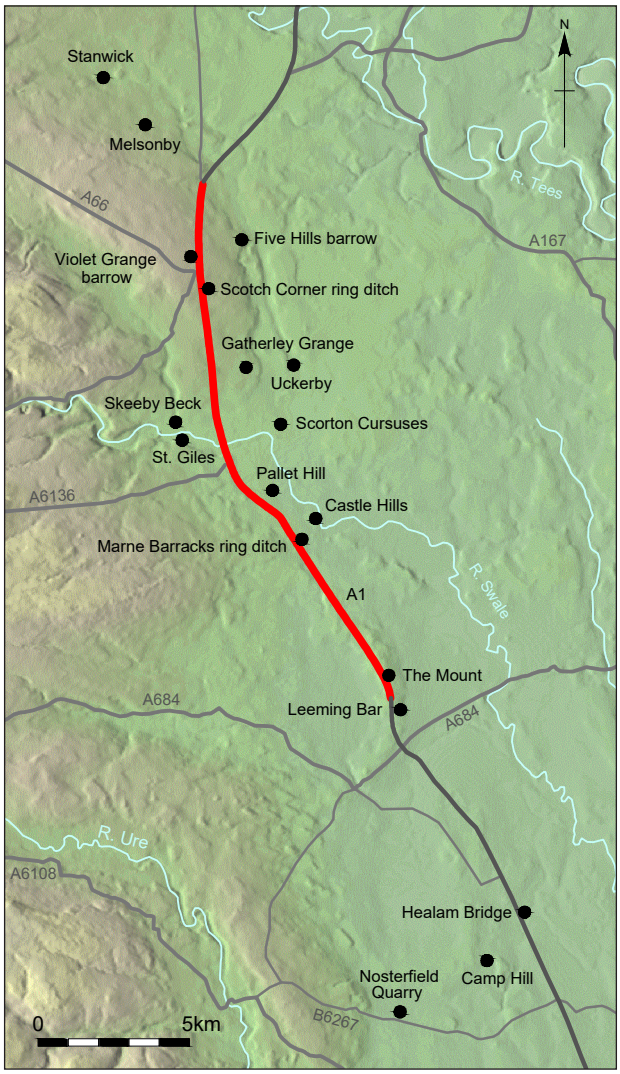


Figure 1.11: map of previous burials recorded within the A1 scheme study area.

PREVIOUS EVIDENCE FOR HUMAN BURIAL

Table 1.2 lists all known burials recorded during excavations since the mid-20th century in the Catterick/Bainesse area and its hinterland, and sites referred to in the following section are located on Figure 1.11.

Earlier prehistoric

Despite extensive archaeological evidence for the presence of Mesolithic and Neolithic peoples within the study area, there is currently no evidence for how they disposed of their dead. It is conceivable that Pallett Hill in Catterick village (SE 2400 9805) is a Neolithic barrow, as may be The Mount just to the north of Leeming (SE 2780 9195) (Vyner *et al.* 2011, 216–7), although neither has been investigated and their origins currently remain uncertain. The 'motte' at Castle Hills to the south-east of Catterick, although undoubtedly used as part of a medieval castle, may have also seen an earlier period of use stretching back to this period (Hale *et al.* 2009, 286).

The earliest funerary evidence in the study area dates from the Early Bronze Age. To the south, numerous round barrows were constructed on the ridge of higher ground between the Swale and Ure, which is also occupied by the henge monuments at Cana and Hutton Moor. However, this dense distribution diminishes further to the south (Vyner *et al.* 2011, fig. 4.2).

Immediately to the north of Leeming Bar, at least three mounds once existed. One of these is The Mount with its encircling ditch, mentioned above, and a second ring ditch encircling a small mound once existed a short distance to the south in the same field (AP plotting held by NYCC HER; Deegan 2013). A third low mound lies in the grounds of Leases Hall immediately to the south (SE 2788 9152). Other mounds in fields to the north may be unrecorded barrows (e.g. at SE 2718 9230 or SE 2650 9363). This area was once known as 'Cloven Hills' and a number of mounds and trenches were levelled in Leases Hall Park during drainage works in the 19th century (Speight 1897, 148–9). While these likely represent evidence of prehistoric activity, they currently remain undated.

More mounds are known to have existed amongst the monuments of the Neolithic and Early Bronze Age ritual complex at Catterick/Scorton, but have mostly been lost as a result of agriculture and quarrying (e.g. Wilson 2002a, 8). An Early Bronze Age ring ditch, presumably a truncated barrow, was investigated at Marne Barracks (Sherlock 2017, 79–82). A large stone cairn of probable Early Bronze Age date containing nine cists was also found incorporated into the ring-work of the Catterick Racecourse henge, although none of the cists contained human remains or grave goods (Moloney *et al.* 2003, 6–9).

Horsley (1732, 400) described more mounds on either bank of the Swale to the west of Catterick Bridge, and a ring ditch has been identified from aerial photography at Skeeby Beck (NZ 2079 0030) (MacLoed 2002, 44). An Early Bronze Age pottery vessel recovered from

Table 1.2: burials previously recorded within the A1 scheme study area.

Site	EBA		EIA		LIA		Roman		Anglian		Anglo-Saxon		Medieval		Reference
	Gr	Ind	Gr	Ind	Gr	Ind	Gr	Ind	Gr	Ind	Gr	Ind	Gr	Ind	
Catterick Racecourse 1995	9	0*	-	-	-	-	-	-	32+	45*	-	-	-	-	Moloney et al. 2003
Brompton Playing Field	?1	0	-	-	-	-	-	-	-	-	-	-	-	-	Wilson 2002a, 8-10
Hollow Banks Farm 1998	1	2+	-	-	-	-	14–15	12	105	c.66	-	-	-	-	Speed 2002; 2005; Eckardt et al. 2015
Scorton Quarry 1976, 2007–11	1	0	?2	?2	22-31	6*	1	1	-	-	1	1	-	-	Greenhalf 1980; Speed 2009; 2010
Stanwick	-	-	-	-	5	6*	-	-	-	-	-	-	-	-	Haselgrove 2016
Catterick Bypass 1958–9 (CfA Site 433)	-	-	-	-	-	-	3	4	4	6+	-	-	-	-	Wilson and Wacher 2002; Wilson et al. 1996
Catterick Racecourse CfA Site 273)	-	-	-	-	-	-	4 (+?3)	5	-	-	-	-	-	-	Wilson 2002a, 209-16
Thornborough Farm (CfA Site 452)	-	-	-	-	-	-	1	1	-	-	-	-	-	-	Thorpe and Wilson 2002
Catterick 1972 (CfA Site 434)	-	-	-	-	-	-	3	3*	-	-	-	-	-	-	Wilson and Wacher 2002
Catterick Bridge (CfA Site 240) 1983	-	-	-	-	-	-	32	32-33	?2	?2	-	-	-	-	Wilson 2002a, 185-205
Brompton drain trench watching brief 1978	-	-	-	-	-	-	0	3	-	-	-	-	-	-	O'Sullivan 1978
Honey Pot Road (CfA Site 251)	-	-	-	-	-	-	1	2	-	-	-	-	-	-	Wilson 2002a, 205-8
Bainesse (CfA Site 46) 1981–2	-	-	-	-	-	-	17 (+?14)	17–22*	7 (+?14)	8–13	-	-	-	-	Wilson 2002a, 139-85; Wilson et al. 1996
Yorkshire Water Depot	-	-	-	-	-	-	11	11	-	-	-	-	-	-	Thubron 2002
Catterick Racecourse Carpark 1999	-	-	-	-	-	-	0	1–2	-	-	-	-	-	-	Falkingham 2000
Cowstand Farm Farm 2000	-	-	-	-	-	-	?3	1	-	-	-	-	-	-	Taylor Wilson 2001
Bridge Road, Brompton 2002	-	-	-	-	-	-	5	5	-	-	-	-	-	-	Speed 2004
RAF Catterick 1939, 1964	-	-	-	-	-	-	-	-	?	4	-	-	-	-	Hildyard 1955; Wilson et al. 1996
Bainesse (Catterick Bypass) 1959	-	-	-	-	-	-	-	-	?	?	-	-	-	-	Wilson et al. 1996
St Giles Farm	-	-	-	-	-	-	-	-	-	-	-	-	40	40*	Cardwell 1995
East of Catterick Racecourse	-	-	-	-	-	-	-	-	-	-	-	-	1	1	Rose 2012
Totals	**12**	**2+***	**?2**	**?2**	**27-36**	**12***	**95–113**	**98–105***	**150–164+**	**131–136+***	**1**	**1**	**41**	**41***	

Key: Gr = number of grave cuts recorded; Ind = number of individuals from which skeletal remains were recovered; * = disarticulated remains recovered.

Brompton Playing Field may represent a disturbed burial (Wilson 2002a, 8–10), and an Early Bronze Age cremation burial has been excavated at Hollow Banks Farm (Speed 2005, 19). A penannular ditch excavated in Scorton Quarry in the 1970s enclosed an oval pit containing a beaker and evidence for a coffin, although no human remains survived (Greenhalf 1980, 1). Further east, several ring ditches, presumably barrows, have been recorded from aerial photographs around the two Scorton cursus monuments (NZ 24 00; Deegan 2013), but all have subsequently been lost to quarrying.

Beyond the Swale valley, Violet Grange Barrow stands on the summit of the limestone ridge to the north of Scotch Corner (NZ 2128 0576), while Five Hills Barrow lies a short distance to the north-east of Middleton Tyas village (NZ 2293 0632; Scheduled Monument 1010542). Faint cropmarks of a small ring ditch just to the south-east of Scotch Corner (NZ 2177 0471; Deegan 2004, site 158) may represent a third monument in this area.

Until the A1 scheme excavations, no burials dating to the Late Bronze Age had been identified within the study area.

Iron Age

For northern England as a whole, the funerary evidence for the Iron Age has, until recently, been sparse (Hodgson and Brennand 2006, 55; Petts and Gerrard 2006, 39; Symonds 2009, 9), leading to the presumption that the majority of the dead were disposed of in ways that are archaeologically invisible. However, increased use of radiocarbon-dating techniques has expanded the record considerably (Brennand *et al*. 2007, 403), identifying burials that might otherwise have been attributed to other periods.

For North Yorkshire as a whole, evidence for Early Iron Age burial remains sparse and the only reasonably secure evidence comes from Ampleforth Moor, immediately to the east of the Vale of Mowbray, where a group of barrows are likely to have covered Early Iron Age cremation burials (Eastmead 1824, 394; Clark *et al*. 1937, 443–4; Wainwright and Longworth 1968, 283–7). Nearer to the current scheme, two heavily truncated ring ditches have been found at Scorton Quarry (SE 2460 9980), one of which has provided an Early Iron Age radiocarbon date. These may, by analogy to Ampleforth Moor, also represent barrows dating from this period (Speed and Evans 2013, 45).

Within other parts of Yorkshire, there are recognised regional burial styles in the Middle to Late Iron Age. In East Yorkshire, during the Middle Iron Age (the Arras Culture), there was a distinctive tradition of individual interment within square barrows, with the burial often accompanied by grave goods, such as weapons, pottery vessels and joints of meat. These graves were often grouped into large cemeteries and frequently included secondary burials. In addition, a small number of chariot or cart burials are known (Halkon 2013, 69–88). By the Late Iron Age, there was a shift to cremation in the area equated with the territory of a tribe later referred to by Roman authors as the Parisi (*ibid*. 13–4). In West Yorkshire, during the Middle Iron Age, interment was typically in pits, although a chariot burial within a square barrow has been excavated at Ferrybridge (Boyle *et al*. 2007; Brown *et al*. 2007b, 46, 99–103). By the later Iron Age, inhumation in a purpose-dug grave pit was the norm for adults at Wattle Syke (Richardson 2013a, 64–8).

Two sites close to the A1 scheme provide some indication of how the Late Iron Age dead were treated locally in the century or so leading up to the Roman Conquest and provide a model for Brigantian burial practice in lowland North Yorkshire. Inhumations at the elite complex at Stanwick just to the north of the study area show similarities with burials found at Scorton Quarry (Speed 2009; Haselgrove 2016, 439–442), which appear to have been associated with a small agricultural settlement at Grange Farm (Copp and Roe 1996; 1997). The individuals at both sites are likely to have died during the 1st century BC or the early part of the 1st century AD. Where body-position could be determined, the burials at both sites had been interred in a flexed position within purpose-dug grave-pits. The burials at Stanwick were all found within or adjacent to boundaries (ditches and rampart banks), while those at Scorton Quarry were arranged in strings alongside field boundaries. These burials were typically unaccompanied by grave goods, although two of the Scorton burials contained iron brooches. No other Iron Age burials have been discovered to date in the vicinity of the A1 scheme.

Roman

Roman burials have been recorded in the area since the early 19th century and the antiquarian evidence has been summarised by Wilson (2002a, 10–33). A detailed description of Roman burials found during the 20th century at Bainesse and *Cataractonium* is provided in the background sections within Chapters 3 and 4.

The published catalogue of Roman burials found at Catterick/Bainesse up to the mid-1990s lists 70 examples (Mays 2002), including those found during the 1958–59 Catterick Bypass excavations, at Catterick Racecourse and Thornborough Farm. On the north bank of the Swale, the catalogue includes the burials found during Wacher's 1972 excavations at Catterick Bridge and Honey Pot Road, but excludes the burials found during the 1978 drainage trench watching brief to the east. At

Bainesse, the work during construction of the Catterick South flyover added 17 burials to the tally; however, this group includes four burials of uncertain Roman/Anglian date, as well as a disarticulated skull found in a robber-trench. In addition, two possible graves did not retain any skeletal remains and a further ten possible burials were not excavated (Wilson *et al*. 1996, 43). Finally, nine burials found at the Brompton Yorkshire Water Depot are of uncertain date.

Several commercial archaeology projects, both large and small, undertaken since 1997 have produced further evidence for Roman burials in the area. In 1998, excavations at Hollow Banks Farm just to the north-east of Catterick Bridge identified a small cemetery of either 14 or 15 graves dated to the mid-4th century (Eckardt *et al*. 2015). The following year, during work at Catterick Racecourse car park to the east of the walled Roman town, an articulated human skeleton was found, and another femur suggested that a second burial was present, both of which were left in situ (Falkingham 2000). In 2000, excavation during construction of a telecommunications mast in Field 163 recorded a grave containing a partially flexed skeleton accompanied by nailed footwear. Two other possible graves did not retain any skeletal remains, although one contained a Roman tinned-bronze spoon (Taylor-Wilson 2001, 13). In 2002, excavation during clearance of the former Cadbury-Schweppes site for redevelopment as the Thomas Armstrong concrete block factory revealed five burials of mid- to late 4th-century or later date (Speed 2004, 16).

Further human remains were identified in evaluation trenches for the A1 scheme in 2005–6. At Bainesse, an inhumation was found in a cist (Speed 2006b, 19–20; 2008, 7), which has subsequently been shown to have been located in the larger Bainesse Cemetery (Grave 217). In another trench excavated at the west side of Catterick Racecourse, a short distance to the south of the Roman town defences (Field 174), part of a skull was recovered from a shallow gully (Speed 2006e, 12). The 2005–6 finds, together with the results of their radiocarbon dating, have been incorporated with the material presented in the following chapters.

Apart from the examples above, only a small number of the burials from Bainesse have been radiocarbon dated (Bayliss 2002); otherwise, the previously excavated human material from the Catterick/Bainesse area has been dated on grounds of stratigraphy or associated dateable artefacts. As well as the Hollow Banks burials, most of the group of Roman skeletal remains catalogued by Mays (2002) has been the subject of a separate stable isotope study (Chenery *et al*. 2011), carried out as part of a wider study looking for long-distance migrants in Roman Britain (Eckardt *et al*. 2010). In contrast to the results from Hollow Banks Farm, most of the individuals from this wider study are suggested to have spent their childhoods in Britain, while a significant number were likely to have had a 'local' upbringing in the Catterick area. Two individuals from Bainesse were possibly of non-British origin (Chenery *et al*. 2011, 1533–5).

Away from the settlements at *Cataractonium* and Bainesse, surprisingly few 'rural' Roman burials have been found in the wider landscape; those that are known are all from the north-east of the Roman town. A cremation burial at Scorton Quarry, found adjacent to the Late Iron Age inhumation described above, contained a number of hobnails and provided a radiocarbon date of 41 cal BC to cal AD116 (41BC–AD86 at 94.3% probability; 1964±30 BP, SUERC-52141), making it the earliest dated 'Roman' burial found so far in the area (Speed 2009, 25). A Roman stone sarcophagus was found 1km to the north of Scorton Quarry at Uckerby (c.NZ 247 022) during drainage works in 1974 (Thorpe 1975, 4). The presence of amphorae and box-flue tile suggests that this burial may have been associated with a possible villa site. Finally, Roman urns, which are possibly associated with burials, have reportedly been found just to the north of Gatherley Grange (NZ 231 021), 1km east of Dere Street (N. Yorks. HER MNY13389).

Anglian

Anglian burials have been excavated at a number of locations in the Catterick/Bainesse area. During his excavation at RAF Catterick in 1939, Hildyard found three Anglian burials cut into the remains of a Roman building and other burials were found in the same area in 1964 and 2015 (Hildyard 1955, 241–2; Wilson *et al*. 1996, 29–32; Sherlock 2017, 84). Further burials were found a short distance to the west during construction of the Catterick Bypass in 1959, which were also cut into the remains of Roman buildings (Wilson *et al*. 1996, 4). Excavation in advance of the Catterick South flyover in 1981–82 (CfA Site 46) recovered eight or nine further Anglian burials and other graves were either of uncertain date, empty or remained unexcavated (*ibid*., 32–45). At *Cataractonium*, at least six individuals attributed to the Anglian period were found by Hildyard between 1958–59, located at the southern edge of the walled Roman town (*ibid*. 47–9). Furthermore, two cist burials found at Catterick Bridge were assigned to the Anglian period, as they cut through a layer containing Anglian pottery; however, a cremation burial containing 3rd-century finds also cut this deposit (Wilson 2002a, 190), meaning that attribution of the cist burials to the Anglian period is insecure.

Excavations at Catterick Racecourse in 1995 recorded 45

Anglian inhumations, accompanied by a wide range of grave goods (Moloney *et al*. 2003, 21–30), and another cemetery was excavated at Hollow Banks Farm in 1998. This comprised 102 inhumation graves (or probable graves) and three cremation deposits, which were accompanied by a wide range of grave goods (Speed 2002).

Although a small number of cremation burials have been found, the majority of Anglian burials at Catterick consist of individual inhumations placed in purpose-dug rectangular or oval grave pits, mostly (but not exclusively) located in areas separate from earlier Roman burials. The bodies in these Anglian burials were laid out either in an extended supine position, or were laid on their side in a flexed position. Approximately half of the known burials have been accompanied by a wide range of grave goods, including hand-built pottery vessels, spearheads, knives, shields, dress accessories, such as buckles, strap-ends and wrist clasps, items of adornment, such as brooches, pendants, bead necklaces and chatelaine complexes, and occasionally other items, such as bone combs and in one case a bronze-bound wooden bucket. Overall, the range of grave goods is considerably different from that seen in Roman burials in the area. In addition, most items differ in form from their Roman counterparts and some types, such as the wrist clasps, only appear in the Anglian period.

The tallies for Roman and Anglian burials in the Catterick/Bainesse area, particularly from older excavations, are only likely to represent a proportion of the original number of graves. Within the settlement areas, centuries of occupation has produced anthropogenic soils more conducive to bone preservation, whereas in more 'rural' locations lower levels of preservation have resulted in correspondingly high numbers of 'empty' graves. In the past, reporting has tended to focus on those features with skeletons and grave goods, and mention of 'empty' features has only become common since the 1990s. Some quantification of this effect for the area can be suggested based on the results from the Hollow Banks Anglian and Roman cemeteries, where a third of the 120 graves contained no bone at all and many of the others only small, often unidentifiable, fragments (Speed 2002), and also from the 2013–17 excavations at Bainesse (see Chapter 3).

In addition to these burials, there are several 19th-century accounts of skeletons and 'armour' (presumably metal grave goods) that were found at various locations to the north of Leeming Bar (Whellan 1857; Speight 1897, 148–9; Lewis 1975, 186), and the First Edition Ordnance Survey map of 1857 marks "skeletons and pieces of Armour have been dug up here" to the north of Leases Hall. Nearer Catterick, the same map records further finds of skeletons and a spearhead at the side of Dere Street near Killerby (SE 250 959).

Later Anglo-Saxon and medieval

By the later Anglo-Saxon period, the occupation pattern of the area had already become established in essentially its modern form, with larger settlements set back from the line of Dere Street (although Catterick was an exception). Possibly due to this fact, the funerary evidence for the period is sparse; presumably by this date most people were interred in churchyards, which now lie below their medieval and post-medieval counterparts and are generally unavailable for investigation. However, some non-graveyard interments are known from the area. An isolated inhumation inserted into the central mound of the Scorton A Cursus (Speed and Evans 2013, 18) has been radiocarbon dated to the late Anglo-Saxon period. At Healam Bridge, three Anglo-Saxon burials located at the eastern side of Dere Street have returned calibrated radiocarbon dates ranging from the late 7th to early 10th centuries (Ambrey *et al*. 2017, 125–6). Although, as has been suggested above, the antiquarian reports of burials along Dere Street in the area of Leases Hall to the north of Leeming most likely represent remains of an early Anglo-Saxon cemetery, the only surviving finds from a burial found in 1834 (Lewis 1975, 143 and note 225) consist of a pair of Scandinavian oval brooches of probable 10th-century date (Roesdahl *et al*. 1981, 77); other Viking burials close to the A1 at Camp Hill, Carthorpe (Lukis 1880, 409; Shetelig 1940, 15 and fig.4), and further south at Adwick-le-Street to the north of Doncaster (Speed and Walton Rogers 2004) suggest that burial close to the road may have been a preferred practice, and it is conceivable that the other burials (and possibly some of the barrows) at Leases Hall may have included further Scandinavian burials (cf. Richards 2004).

For the medieval period, the main funerary evidence in the study area comes from St. Giles Farm on the south bank of the Swale (SE 2100 9965), a short distance upstream from *Cataractonium*, where part of a medieval hospital cemetery was excavated in 1988–90 (Cardwell 1995). An isolated 'field' burial found to the east of Catterick Racecourse (SE 2363 9907) has also provided a late 11th- to early 13th-century radiocarbon date (Rose 2012).

FIELDWORK METHODOLOGY

The archaeological response to the development scheme was informed by a research strategy prepared in advance of the construction works (AECOM 2013b). In the absence of an archaeological research agenda for North Yorkshire, reference was made to relevant

parts of the Archaeological Resource Assessment and Research Agenda for West Yorkshire (Sanderson and Wrathmell 2005; Vyner 2008; Chadwick 2009) and the North-East Regional Research Framework for the Historic Environment (Petts and Gerrard 2006), together with further discussion with Historic England and North Yorkshire County Archaeological Officers.

The overall strategy and methodology for archaeological fieldwork during the scheme was laid out in the *Specification for Topsoil and Subsoil Removal During Construction* (AECOM 2013c). This envisaged three forms of archaeological monitoring during the works: during topsoil removal along the haul roads; strip, map and record of areas known to have archaeological potential; and watching briefs on other areas (supplemented by appropriate schemes of strip, map and record where hitherto unknown deposits of archaeological significance were encountered). This document was complemented by a *Strategy for Utilities Diversions Required as a Result of Motorway Construction* (AECOM 2013d). In the event, excavation and recording methodologies were continually reviewed as the scheme progressed, particularly in areas such as *Cataractonium*, which contained extensive deeply stratified archaeological deposits. Excavation works were undertaken in compliance with relevant national guidelines (English Heritage 2008; Historic England 2015; CIfA 2014a–c). Excavation of human remains found on the scheme followed more specific published guidance (English Heritage and Church of England 2005; McKinley and Roberts 1993).

In areas without substantial stratified archaeological deposits, modern topsoil, buried medieval and post-medieval agricultural soil, and/or modern overburden were removed mechanically under archaeological supervision. Elsewhere, particularly at sites within and around *Cataractonium*, burials were identified by stratigraphic hand excavation.

Bulk soil samples of grave fills, and additional samples, where practicable, from the abdomen, chest, skull, hands and feet of skeletons, were collected for processing to recover any skeletal, or other bodily material, and artefacts that were undetected during hand excavation. Wherever practical (and where the fill could unambiguously be attributed to a specific burial), a 100% sample of the deposit was recovered and wet-sieved. All deposits of cremated human remains were 100% sampled. A more complex in situ (*bustum*) cremation deposit was excavated following a methodology similar to that subsequently described by McKinley (2017, 280–1), with multiple samples to allow for study of the three-dimensional distribution of the pyre remains within the grave pit. This is described in detail in Chapter 4. Where cremation urns were present and sufficiently well-preserved, they were lifted intact with the cremation deposit in situ for laboratory excavation.

In most cases, hand-drawn plans were created for each grave. To supplement (and occasionally replace) the hand-drawn plans, a digital photographic record was made of each grave, incorporating survey markers. From these, geo-referenced three-dimensional composite images were created of many of the burials. In some cases, these have been used to create the grave plans reproduced in the following chapters and the accompanying rectified photographic images.

Placed grave goods and other objects directly associated with the burials were allocated unique 'recorded find' (RF) numbers. Recorded finds were photographed, planned and three-dimensionally located in situ. Residual artefacts recovered from grave back-fills were, in general, recovered as bulk finds. Finds were recovered and processed following published guidance (CIfA 2014d; Watkinson and Neal 2001).

Each individual burial component, including the grave/cremation cut, fill(s), skeleton and cremation deposit was given a unique context number from a continuous running sequence. In the following chapters, context numbers are highlighted in bold.

POST-EXCAVATION STRATEGY

The post-excavation strategy for the overall project was guided initially by a specification issued prior to the start of fieldwork (AECOM 2013a). As the scale of the post-excavation works increased, a more detailed post-excavation strategy was agreed (Russ *et al.* 2017). Throughout the post-excavation programme, the process was informed by monthly progress meetings attended by the NAA Post-Excavation Team and AECOM, as well as periodic meetings with specialists and representatives of the JV, Historic England, North Yorkshire County Council, Highways England, and their representatives from Atkins Global and Faithful and Gould.

In view of the very large quantities of data generated by the overall scheme, a large quantity of the data will be made available via the Archaeology Data Service (ADS) website as a part of the archiving process. This will include much of the site record, full versions of the specialist reports and other project-related reports. A full list of online resources related to this volume and available on ADS can be found in Appendix A.

TERMINOLOGY

In order to provide some conformity in the following chapters and parity with existing literature, the following terms have been used throughout this volume.

TYPES/LOCATIONS OF BURIAL AREAS

Cemetery: a large group of burials located in a restricted and often physically defined area but presumably publicly accessible to people from a community-wide catchment. Typically, these cemeteries were located away from contemporary settlement.

Small cemetery: smaller group of burials, located within a limited, sometimes defined, area and normally located away from contemporary settlement. Possible familial link between the burials; however, such groups may alternatively represent specific social strata (such as an elite), professions (e.g. members of the military), religious beliefs, (in the Roman period) burial societies (*collegia*), or individuals linked in some other way (e.g. burials around a gallows). Equally, they may represent nascent examples of more 'public' cemeteries which, for whatever reason, failed to attract larger numbers of burials.

'Back-plot' burials: a large proportion of the Roman burials found at Roman settlements, not least *Cataractonium* and Bainesse, have been found within enclosures (usually) located behind contemporary street-front development and would presumably have been within private premises. These can confidently be suggested to represent individuals who had a direct link with those premises, the owner/tenant and their family, servants, slaves and, occasionally, guests. Whilst Smith (1987, 115–8) uses the phrase 'houseplot burials', 'back-plot' is preferred here since the functional nature of many of the premises is by no means certain.

'Field' burials: single burials located within the wider agricultural landscape and not associated with any known focus of settlement.

There are, of course, other burials that fall outside these categories, such as single infant burials within settlement areas, or individual barrow burials; these are individually described as such in the following text.

GRAVE CATALOGUES

In Chapters 2–5, catalogues that include standardised tables are provided to present evidence for each of the excavated graves alongside a plan, a text description of the deposits and any intra-grave interpretation (cf. Haughton and Powlesland 1999). In most cases, the grave cut number has been used as the signifying Grave Number (e.g. Grave **20400** at Brompton West). Given the large number of burials from Bainesse Cemetery (and the resulting number of similar five-digit context numbers used on site), each grave assemblage was allocated a separate Grave Number (from 1–274) at the outset of the post-excavation programme to simplify the task of communication during analysis and interpretation.

The catalogue tables are each divided into three sections (e.g. Table 1.3). The first provides basic data concerning the grave, including its orientation and overall surviving dimensions, and a list of associated context numbers such

Table 1.3: example of grave catalogue.

Grave cut 6729	
Shape	Irregular oval
Max. dimensions	L: 1.6m, W: 1.1m, D: 0.26m
Associated contexts	Grave backfill 6730, which includes cremation deposit
Cremation deposit 6730	
Weight (g)	314.5
Largest fragment (mm)	30.5
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White/blue grey/black
Age	-
Sex	-
C14 date	cal AD132–333 (95.4%) (1789±34 BP, SUERC-75336/GU45143)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 45 pottery sherds x7 from a black-burnished ware (Fabric BB1) jar dated to the mid- to late 2nd century AD; Cat. no. 413 nailed footwear represented by x41 (minimum) hobnails that had been burnt on the pyre
Other finds	Pottery sherd x1 (Fabric NV CC); samian sherd x1 (East Gaulish, form unidentified); flint debitage x1; fired clay; mortar; magnetic matter
Environmental	Charcoal; CPR
Interpretative date	Early 3rd century

as fill(s), skeleton(s) and, where appropriate, immediately associated ancillary features, such as possible external grave markers. Orientation has been taken from the skeleton, where it survived, with the head-end listed first, so that a grave described as W-E contained a skeleton with its head to the west. Where no remains survived, or in the case of cremation burials, north or east has been listed first (rather than south or west) for conformity.

The second section contains summary skeletal data. For inhumations, descriptions of body position, etc. generally follow the terms described by Sprague (2005, 27–55). However, since they continue to be commonly used in British archaeological publications (e.g. Biddulph 2006a; Booth *et al*. 2010), the terms supine and prone have been retained here rather than Sprague's (2005, table 5 and 103–4) preferred 'on back' and 'on face', to which they can, as used here, be directly equated.

The degree of flexure of the body describes the angle between the torso and the upper legs:

- extended, with the torso and femora in a straight line (180º);
- semi-flexed, with the torso and femora at an angle between 180º and 90º;
- flexed, with the torso and femora at an angle between 90º and 10º; and
- tightly flexed, where the angle between the torso and femora was less than 10º.

Similar terms are used to describe the angle between the upper and lower legs. Where the feet were together this has been noted.

Arms were typically along the sides of the body, with the hands over the pelvis, or folded across the chest; other positions are described where appropriate. The head could be looking straight forward, turned to the left or right, tilted to the left or right (ear to shoulder), or tipped forward or back (nod) (Sprague 2005, table 4).

Parameters used in determination of sex, age, fragmentation, condition and stature for each individual are described in Chapter 6, as are any pathological traits that were noted; these are summarised in the grave catalogue tables in Chapters 2–5. For the human remains from cremation deposits, the methodology for determining the quantity, physical condition and characteristics, number of individuals represented, their age, sex and any surviving pathological indicators is similarly described in Chapter 6.

The third section of each table presents a summary of any coffin or other container (including any nails or other fittings), any ceramic vessels directly associated with the burial, other grave goods or material directly associated with the funerary process, any residual finds found within the grave back-fill (but probably not directly associated with the funerary process), and other materials recovered from soil samples, including plant and industrial remains.

Finally, a date is suggested for each burial, based on radiocarbon dating, associated artefacts, stratigraphic relationships, spatial relationships, and taking into account any statistical modelling of these data. The methodology used for radiocarbon dating (and calibration) of the burials and subsequent Bayesian modelling of the results is described in Chapter 10. Throughout the volume, calibrated radiocarbon dates are quoted at a probability of 95.4% (2σ) unless stated otherwise. Modelled dates are given in italics (e.g. *AD 210–330*).

LOCATION OF THE ARCHIVES

The site archive resulting from the excavations is, at time of publication, held at NAA's offices in Barnard Castle, County Durham. Once analysis works on the site records, finds and environmental remains are complete, the archive will be deposited with the Yorkshire Museum, York (York Museums Trust), with the accession number YORYM: 2016.101. Electronic data will be available via the ADS (http://archaeologydataservice.ac.uk). It is expected that archiving will take place in 2020.

CHAPTER 2
THE PREHISTORIC BURIALS

Greg Speed, David W. Fell, Malin Holst, Katie Keefe and Sophie Newman

INTRODUCTION

Prehistoric burials were found at four locations along the A1 scheme (Fig. 2.1) and are presented below in chronological order. Isolated cremation burials of Early-Middle Bronze Age date were found at Killerby (Field 259), Scotch Corner (Field 258) and near Catterick Racecourse (Field 174). A more complex funerary site dating to the Late Bronze Age was excavated at Bowbridge Lane (Field 145). Other non-funerary, prehistoric remains found during the course of the scheme are described elsewhere (Speed *et al*. 2018; in prep.).

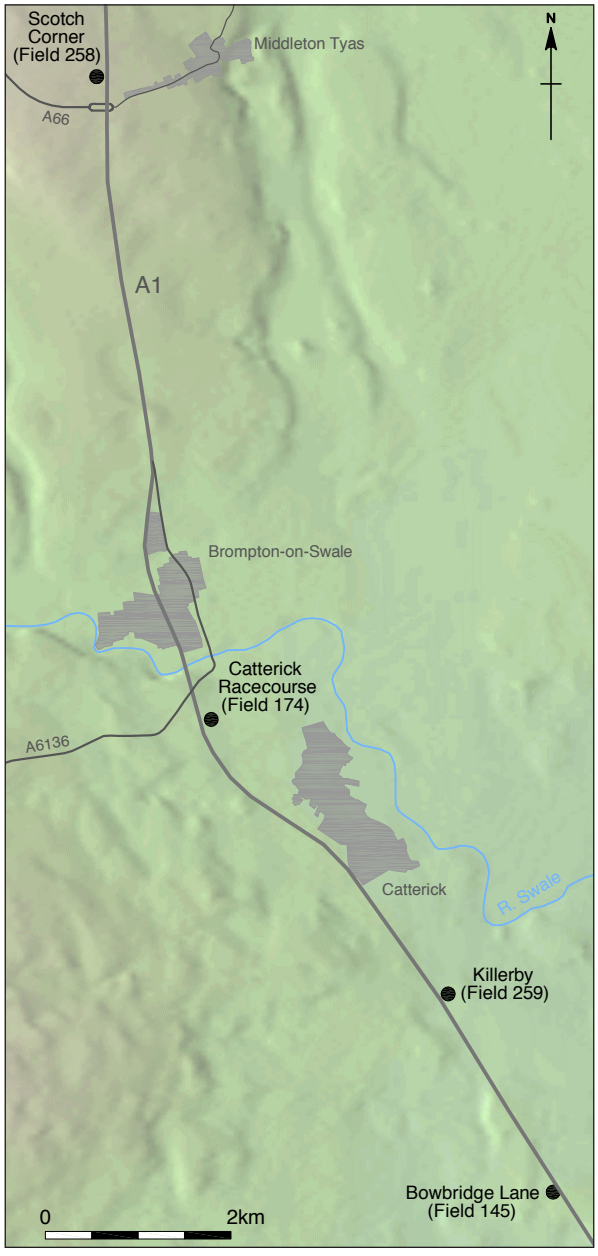


Figure 2.1: location of prehistoric graves.

KILLERBY

Field 259 was centred on SE 2527 9575, on the eastern side of the A1 and to the north of the driveway to West Lodge. An oval area measuring c.240m by 120m was stripped within the field for the construction of a new drainage balancing pond (Fig. 2.2).

In this area, the A1 runs along the eastern flank of higher ground forming the north-eastern part of the Leeming Moraine (Bridgland *et al*. 2011, 51 and fig. 2.11). Within Field 259, the ground slopes steeply down to the east and south-east into a damp, low-lying hollow, itself flanked to the east by a smaller, parallel glacial ridge, known as Pike Hill. The base of the hollow is occupied by peat-filled basins (*ibid*., 32), believed to be former ponds that formed in glacial kettle holes.

Evidence for early prehistoric activity in the vicinity of the site suggests that this was a resource-rich and attractive area for occupation. Mesolithic or Early Neolithic flint blades have been found on the flank of Pike Hill, to the south of West Lodge (in the field to the south of Field 259), and an Early Neolithic knapping floor has been excavated at Marne Barracks, 1km to the north (Platell and Hale 2006, 8; Speed 2010b, 83). Pits found in Field 259 and the fields opposite, on the western side of the A1, contained worked flints, occasional hand-built potsherds, charcoal and burnt stones, and are considered likely to represent prehistoric activity; many of these features were concentrated around a former wetland area, and Early Bronze Age pits found during the A1 evaluation at West Lodge were similarly focused on a peat-filled basin (Speed 2010b, 80–3).

The cremation burial in Field 259 lay within 500m (probably closer) of the south-eastern end of a large, undated, elongated, ditched enclosure of a form and size reminiscent of what Loveday (2006, 23–7) has defined as a 'classic' or 'major' Middle Neolithic cursus monument. The perimeter ditches of this monument, which is orientated obliquely to Dere Street and the roadside settlement at Bainesse, have been recorded by geophysical survey and shown to run from a squared terminal to the west of Bainesse farmhouse (SE 4035 7050) for a distance of over 1.1km to the south-east (to SE 4990 6440), crossing the former A1(T) and the former airfield (RAF Catterick) at Marne Barracks, and continuing beyond the surveyed areas into the grounds

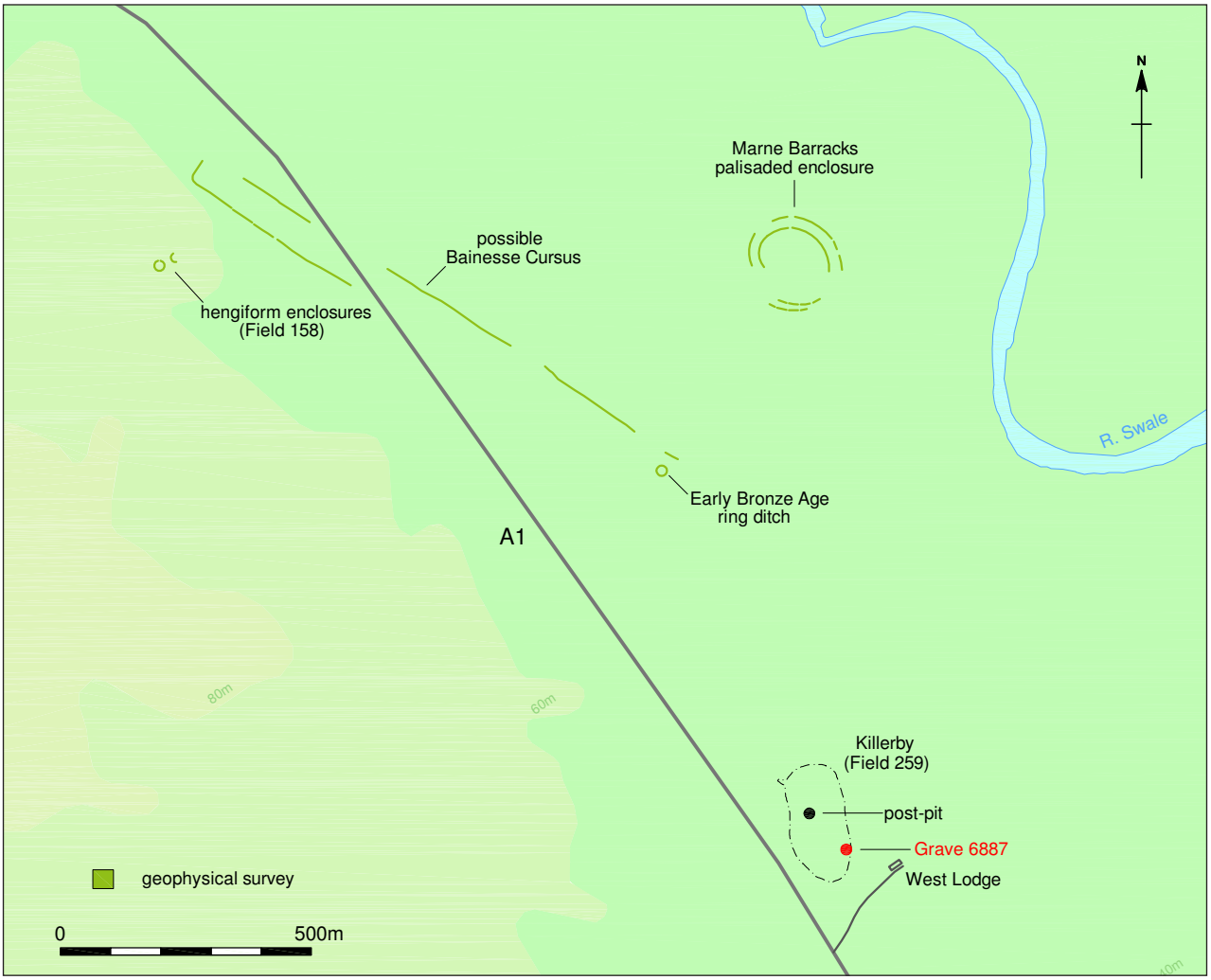


Figure 2.2: Killerby: location of Grave 6887 in relation to nearby prehistoric monuments.

of Oran House (Hale 2001, fig. 5; Brickstock *et al*. 2007, fig. 15; Speed and Zochowski 2015, 5). Gaps in the recorded lines of the side ditches correspond closely to areas affected during construction of RAF Catterick (Hale 2001, fig. 3). The separate portions of the enclosure to the east and west of the former A1(T) have, in isolation, previously been interpreted as an undated trackway and a Roman marching camp (Hale and Still 2002, 19; Wilson 2007, 113), although the unitary nature of the enclosure seems clear from the combined geophysical surveys. This possible 'Bainesse Cursus' lay at the centre of (and may have formed the initial focus for) a group of other prehistoric monuments, including two small Neolithic hengiform enclosures near its north-western end (one of which was investigated during the current road scheme; Speed 2010b, 77–9; in prep.), a large palisaded enclosure to its east at Marne Barracks (Hale *et al*. 2009), and a probable Early Bronze Age barrow located within the cursus (Sherlock 2017, 79–82). In Field 259, a large post-pit containing a group of worked flints may also have been part of this ritual landscape. Similar single large post-pits of Neolithic date have been found associated with the Scorton monument complex on the north bank of the Swale (Speed 2009a, 13; Speed and Evans 2013, 24).

EXCAVATION RESULTS

In 2006, a geophysical survey of a 60m-wide strip adjacent to the A1 in Field 259 identified several linear anomalies (Hale 2006, figs. 78–80). At this time there was no plan to construct a balancing pond in the field, and hence the evaluation did not examine the eastern part where the cremation burial was located. A trial trench subsequently confirmed the presence of an undated ditch crossing the field but did not identify any prehistoric features (Speed 2006e, 26–7). Soil stripping for the new balancing pond revealed a number of dispersed archaeological features, including the ditch, pits, the post-pit noted above, several probable hearths, small groups of worked lithics, and the cremation burial. Scientific dating of the non-funerary features is yet to be carried out and will be incorporated in a future publication (Speed in prep.).

Near to the foot of the slope at the eastern edge of the excavated area, two small pits lay adjacent to each other between two boulders. Despite their proximity, there was no evidence to suggest that the two features were related other than by their association to the boulders. The larger feature had probably been a hearth and has not yet been

Figure 2.3: Killerby: Grave 6887.

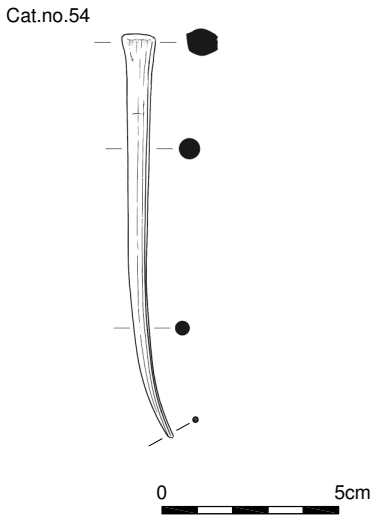


Figure 2.4: Killerby: Grave 6887, burnt bone pin.

dated. The western feature (Grave **6887**) contained a deposit of cremated human bone and burnt fragments of a bone pin (Figs 2.3 and 2.4; Table 2.1).

The pit had been truncated to an unknown extent by later agricultural activity. The single cremation deposit (**6888**), which consisted of the remains of an adult and a child, was contained in a matrix of mid-greyish brown silty clay. The apparent separation into two layers in the accompanying photograph (Fig. 2.3) was the result of differential drying of the deposit. Most of the charcoal was concentrated in the lower part of the deposit, while the calcined bone mainly occurred in the upper part, although in each case the materials were uniformly mixed. It was not clear whether the varying proportions of bone and charcoal through the fill was a conscious distinction on the part of those collecting and depositing the remains.

DISCUSSION

Although Grave **6887** lay amongst a number of pits that are suggested to be prehistoric in date, its chronological relationship to these features cannot be determined at present. However, the date obtained for the cremation

Table 2.1: grave catalogue for Grave 6887.

Grave cut 6887	
Shape	Circular
Max. dimensions	0.38m diameter, 0.24m deep
Associated contexts	Cremation deposit 6888
Cremation deposit 6888	
Weight (g)	908.2g
Largest fragment (mm)	36.4mm
Identified elements	Cranial vault, upper limb shaft, hand phalanges, vertebrae, ribs, lower limb shaft
Colour	White
MNI	2
Age	(a) Adult (16+) (b) Infant/young juvenile
Sex	-
C14 date	1921–1700 cal BC (calcined human bone, 3501±36 BP, SUERC-75032)
Grave contents	
Cinerary urn	-
Grave goods	Cat. no. 54 bone pin fragments
Pyre goods	-
Other finds	-
Environmental	Charcoal (undet. species)
Interpretative date	Early Bronze Age

deposit places it chronologically between two groups of pits that were previously excavated a short distance to the south, the earlier of which provided a radiocarbon date of 2133–1902 cal BC and the latter a suite of dates covering 1890–1410 cal BC (Speed 2010b; in prep.). By analogy to similar post-pits found in proximity to monuments at Scorton, the presence of the large post-pit at Killerby (which contained an assemblage of Neolithic worked flints) suggests that the area containing the burial formed part of the 'sacred landscape' around the south-eastern end of the possible Bainesse Cursus, which could have influenced the selection of the burial location.

The juxtaposition of two features, cremation burial and hearth, between two boulders is of some note. Originally, the boulders would probably have projected above the ground surface. The hearth is undated at present, and therefore there is no evidence to suggest it was contemporary with the burial. As such, although they were presumably sited for different reasons (and possibly at very different times), with the hearth using the boulders for shelter while the cremation burial may have exploited them as a visible marker, they display an interesting continuity of place, perhaps both located within the 'sacred landscape' surrounding the nearby cursus. Prehistoric features of greatly varying date are sometimes found in close association but often without any apparent focus, such as groups of both Early and Late Neolithic pits found in dense clusters at Marton-le-Moor, 28km to the south of Killerby, or the nationally common association of Bronze Age barrows with evidence for earlier (often much earlier) non-funerary activity (Tavener 1996, 183; Last 2007, 165–6).

The radiocarbon date obtained for the Killerby burial (1920–1700 cal BC) was the earliest for any of the burials found during the motorway improvement scheme. The result is contemporary with the date obtained from a cremation burial excavated at Hollow Banks Farm, 4km to the north-west (1920–1690 cal BC; Speed 2005). This burial is comparable in that both included fragments of bone pins (see Fig. 2.4 for the Killerby example). There is plentiful evidence in the form of clothing fittings and accessories that indicates the Early Bronze Age dead were often dressed when buried or cremated, and burnt bone pins are a common inclusion in cremation burials of this period (e.g. Fowler 2015, 53 and 69).

SCOTCH CORNER

A single Bronze Age cremation burial was found in a small pit in Field 258, a short distance to the north of Scotch Corner (at NZ 2148 0563; Fig. 2.5). The site lies at the eastern end of the limestone ridge that separates the Vale of Mowbray from the Tees Valley, now exploited to the west by the line of the A66, and would have demanded wide views (dependent on past tree cover), particularly to the east. Although there is no palaeoenvironmental evidence from the immediate

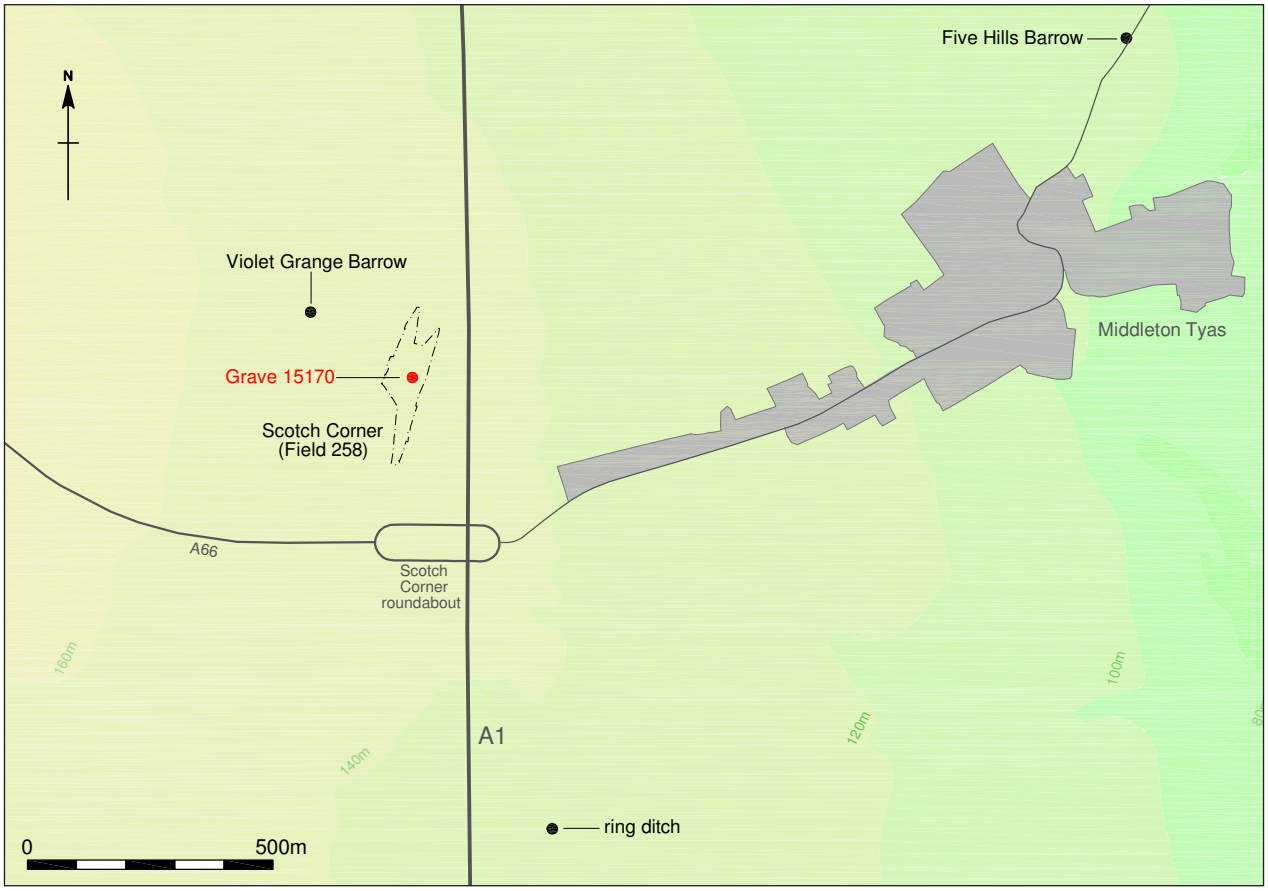


Figure 2.5: Scotch Corner: location of Grave 15170 in relation to nearby prehistoric monuments.

vicinity of the site, the limited pollen data for the period from the Vale of Mowbray immediately to the south suggests varying scales of forest clearance during the Bronze Age (Bridgland *et al*. 2011, 264). There is evidence to suggest that the area was exploited throughout much of prehistory, with Mesolithic and Neolithic/Early Bronze Age flint scatters found close to the burial site during the current works (Speed in prep.). In addition, a nearby pit contained a small assemblage of worked flints and a polished stone axe made of gabbro, which is probably of Early Neolithic date (Clarke 2016). More widespread activity from the period is indicated by surface finds of worked flints around Melsonby and Stanwick to the north (Haselgrove and Lowther 2016, 351–4), and along the limestone ridge to the north-west (Healey 1994; Zant 2013, 25). A large Neolithic henge is suggested to exist at Moulton Hall (NZ 232 035), 2.75km to the south-east of Field 258 (NYHER MNY38793). Late Mesolithic or Early Neolithic pits were identified 2km to the west of Field 258 during widening of the A66 (Zant 2013, 25–8). At the same site, charcoal from one of a group of three small pits provided an Early Bronze Age radiocarbon date. One kilometre to the west of Field 258, another pit of similar date contained an assemblage of Early Bronze Age pottery (*ibid*., 28–30).

As noted in Chapter 1, the site lies within a widely-dispersed group of burial mounds that are suggested to be Bronze Age in date. Violet Grange Barrow (NZ 2128 0576) lies only 200m to the north-west, Five Hills Barrow 1.5km to the east (NZ 2293 0632), and a ring ditch possibly representing a third monument lies 1km to the south (NZ 2177 0471) of the burial (Fig. 2.5).

EXCAVATION RESULTS

The cremation burial (Grave **15170**) had been placed within a small pit located on a gentle east-facing slope (Fig. 2.6). It lay amongst a palimpsest of Late Iron Age and Early Roman settlement features (Fell forthcoming). These, together with subsequent agricultural activity, are likely to have removed evidence for any nearby pyre site.

The centre of the deposit of calcined bone and charcoal (**15171**) was overlain by a secondary fill of 'clean' mid brown sandy clay (**15172**). This indicated that, although the grave had been truncated by later agricultural activity, the cremation deposit itself had been preserved relatively

Figure 2.6: Scotch Corner: Grave 15170 (scales 0.50m and 0.25m).

Table 2.2: grave catalogue for Grave 15170.

Grave cut 15170	
Shape	Sub-elliptical
Max. dimensions	L: 0.59m W: 0.39m D: 0.25m
Associated contexts	Cremation deposit 15171, upper fill 15172
Cremation deposit 15171	
Weight (g)	2807.8g
Largest fragment (mm)	48.8mm
Identified elements	All skeletal elements were represented. At least two individuals present (two left orbital margins)
Colour	White
MNI	(a) Adult (16+) (b) Adult (16+)
Age	Both individuals older than 16
Sex	Male?
C14 date	1626–1460 cal BC (calcined bone, 3274±32 BP, SUERC-76676)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	*Quercus* (oak) charcoal
Interpretative date	Early-Middle Bronze Age

intact. A catalogue for this burial is provided in Table 2.2.

DISCUSSION

The single radiocarbon date obtained for Grave **15170** (1626–1460 cal BC) spans the Early/Middle Bronze Age divide (Needham Periods 4–5; Needham *et al*. 2010, table 1). There is no other archaeological evidence from this period in proximity to the site, and hence the contemporary context of the burial remains unknown. Given its distance from any of the presumed Early Bronze Age barrows that are known within the vicinity, it seems unlikely that the cremation represents a satellite burial, although the presence of other unidentified monuments close by is a possibility.

The large bone weight recovered from Grave **15170** (2807.8g), was considerably greater than the average weight for cremation burials (see McKinley 1993), and can be explained to some extent by the presence of remains from at least two adult individuals. Nevertheless, the quantity of bone still represents considerable attention to the recovery of the human remains from the pyre, although despite this it had not been separated from the charcoal within the pyre debris.

CATTERICK RACECOURSE

Field 174 lies at the eastern side of the A1 next to Catterick Racecourse. The burial (located at SE 2273 9846) lay close to a group of Neolithic and Early Bronze Age monuments that frames the large bend in the River Swale downstream of Catterick Bridge (Fig. 2.7). To the north-east lay the Scorton Cursus, a bank-barrow more than 2.1km long (Topping 1982), which is suggested to have been bisected by a second 'B' cursus (Speed 2009b, 3), although both monuments have now been largely destroyed by quarrying. To the north and west of Scorton village, these monuments were associated with a number of timber settings and other ceremonial features. To the south-west, the projected line of the 'B' cursus pointed towards a small henge at Hollow Banks Farm (Speed 2005). On the opposite bank and within the loop of the Swale, lay the Catterick Racecourse Henge (Moloney *et al*. 2003) and a possible small cursiform enclosure that has been identified from fragmentary cropmarks (MacLoed 2002, 40–2, fig. 26). As described in Chapter 1, antiquarian accounts suggest that there were formerly numerous barrows located amongst the monuments, but these have largely been levelled by agriculture or lost to the widespread aggregate quarrying that has occurred on either side of the river. Excavated prehistoric funerary remains in the area include the Beaker barrow in Scorton Quarry, the Early Bronze Age cremation burial at Hollow Banks Farm, and cists within the large cairn incorporated into the Catterick Racecourse Henge (Greenhalf 1980; Moloney *et al*. 2003, 4–13; Speed 2005).

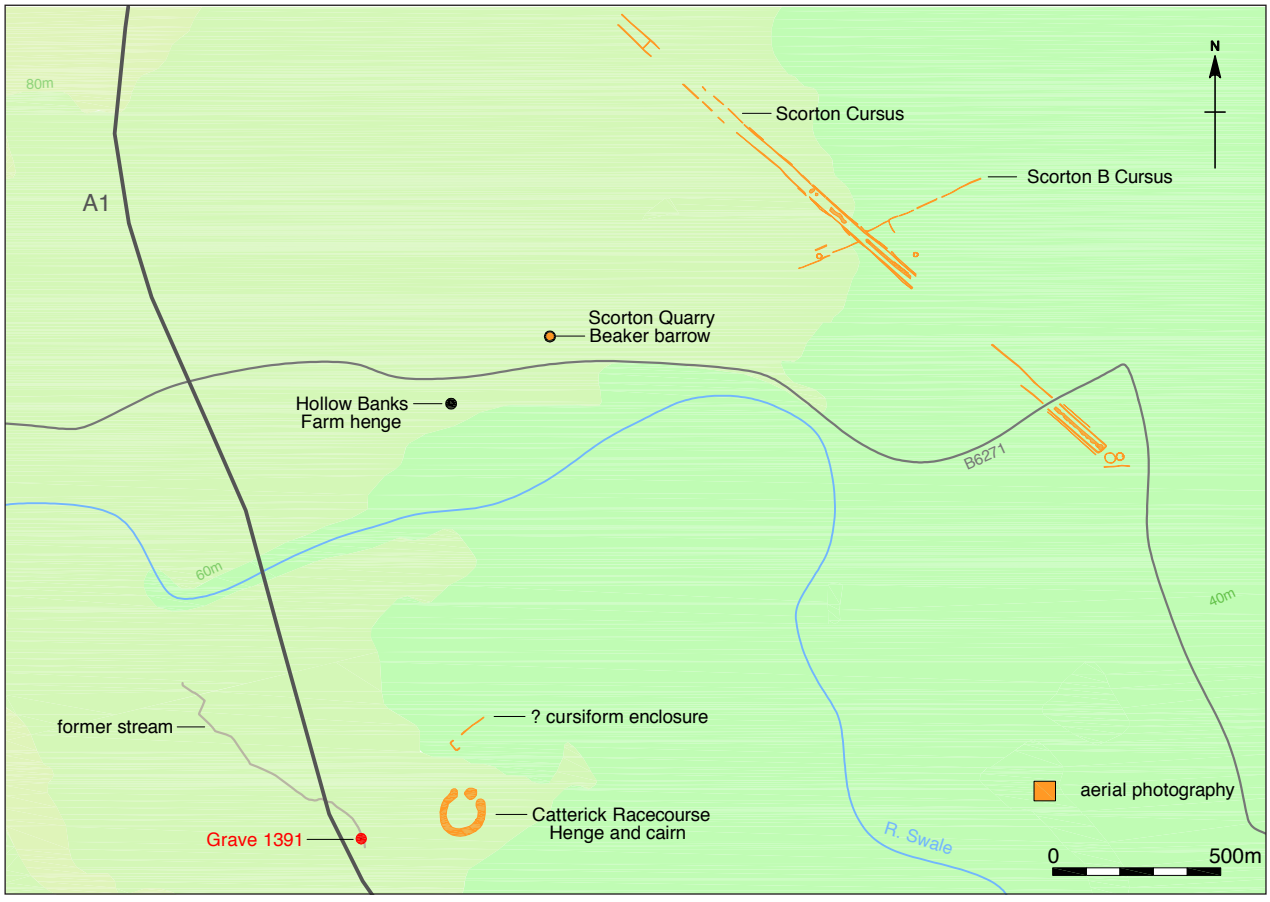


Figure 2.7: Catterick Racecourse: location of Grave 1391 in relation to nearby prehistoric monuments.

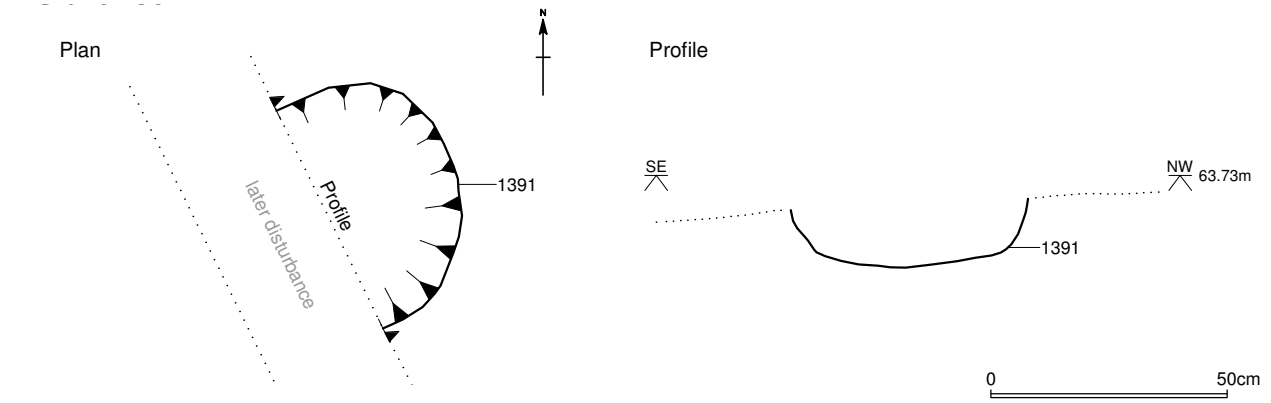


Figure 2.8: Catterick Racecourse: Grave 1391.

EXCAVATION RESULTS

The cremation burial (Grave **1391**) was found near the southern end of Field 174 on fairly level, low-lying ground at the foot of a slope rising to the west. It was also in clear view of the Catterick Racecourse Henge, located at the south-eastern corner of the field. The only other archaeological features found within the southern part of the field, albeit all at some distance from the burial, were two pits and a truncated small oven, none of which could be dated.

Charcoal and calcined bone fragments occurred throughout a matrix of dark brown sandy clay and comprised c.50% of the remaining deposit. The western half of the feature had been removed by a modern land-drain (Fig. 2.8) and it had also been truncated by ploughing. Although the calcined bone was very obvious during excavation, most of it only survived as powder and could not be retained during processing of the sample. Combined with the extent of truncation, this explains to some extent the very low bone weight recorded (see Table 2.3).

DISCUSSION

The radiocarbon date obtained from Grave **1391** (1424–1262 cal BC) places it within the Middle Bronze Age (Needham Period 5; Needham *et al*. 2010, table 1). It was located close to the southern bank of a former stream, which once ran from north-west to south-east across the line of the A1, its course preserved by a succession of ditches and modern culverts. The burial site lay only 250m to the west of the Catterick Racecourse Henge and cairn, and the possible cursiform enclosure. The former stream appears to have been attractive to prehistoric

Table 2.3: grave catalogue for Grave 1391.

Grave cut 1391	
Shape	Sub-circular
Max. dimensions	L: 0.49m, W: 0.29m, D: 0.12m
Associated contexts	Cremation deposit 1392
Cremation deposit 1392	
Weight (g)	4.2g
Largest fragment (mm)	21mm
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White
MNI	-
Age	-
Sex	-
C14 date	1424–1262 cal BC (calcined human bone, 3081±32 BP, SUERC-76678, GU45979)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	240g *Quercus* (oak) charcoal; 1g *Prunus* (cherry) charcoal
Interpretative date	Middle Bronze Age

communities, with a group of pits containing Early Bronze Age pottery, which were excavated as part of the A1 scheme, lying 75m to the west of the burial in Field 172. Slightly further to the west, in the same field, a lithic scatter, which included possibly Bronze Age material, and further currently undated pits were found during the 1990s A1 evaluation on a low ridge overlooking the former stream (Makey 1994, 108–9; Speed in prep.).

The severe truncation of Grave **1391**, combined with the poor condition and small quantity of the cremated remains, prevents any discussion of the individual(s) buried at Catterick Racecourse. However, their presence indicates that the environs of the nearby Neolithic or Early Bronze Age henge monument had continued significance during the Middle Bronze Age, nearly a millennium after the monument is likely to have been constructed.

BOWBRIDGE LANE

A group of archaeological features was excavated on the northern side of Bowbridge Lane, within the south-eastern corner of Field 145 (known as 'Standing Stone Field') on the western side of the A1 (at SE 2652 9347; Fig. 2.9). Towards the northern end of Field 143, located to the south of Bowbridge Lane, was an additional pit that possibly formed a wider part of the same site. The features were divided into two main phases, consisting of Late Bronze Age funerary activity (discussed below), and Early Iron Age domestic or agricultural occupation represented by two phases of enclosure and a four-post structure (Fig. 2.10). These latter features will be described in a separate publication (Speed in prep.).

The ground-levels around the excavation area in Field 145 had previously been truncated to the north-east by the existing A1(T) cutting, to the south-east by the cutting for Bowbridge Lane, and to the south-west by an access from the lane. This left the surviving archaeological features isolated on a raised 'island'. From this raised area, the topography formerly sloped fairly steeply down to the south, west and north, while to the east it originally linked to the northern end of the slightly higher ridge of the Leeming Moraine. Bridgland *et al.* (2011, 264–6) indicate that there may have been some woodland regeneration during the wetter, cooler period of the Late Bronze Age and early Iron Age, but assuming there was no dense woodland immediately fringing the western and northern sides of the site, the relatively steep topography means that there would have been extensive views to the south-west, to the Pennine foothills to the west, and towards lower ground to the north and north-east on either side of a small hill called High Goskins, which is located 1km to the north.

Previous work has been undertaken within Fields 143 and 145 in the 1990s. In Field 143, fieldwalking recovered Roman and medieval potsherds, although trial trenching

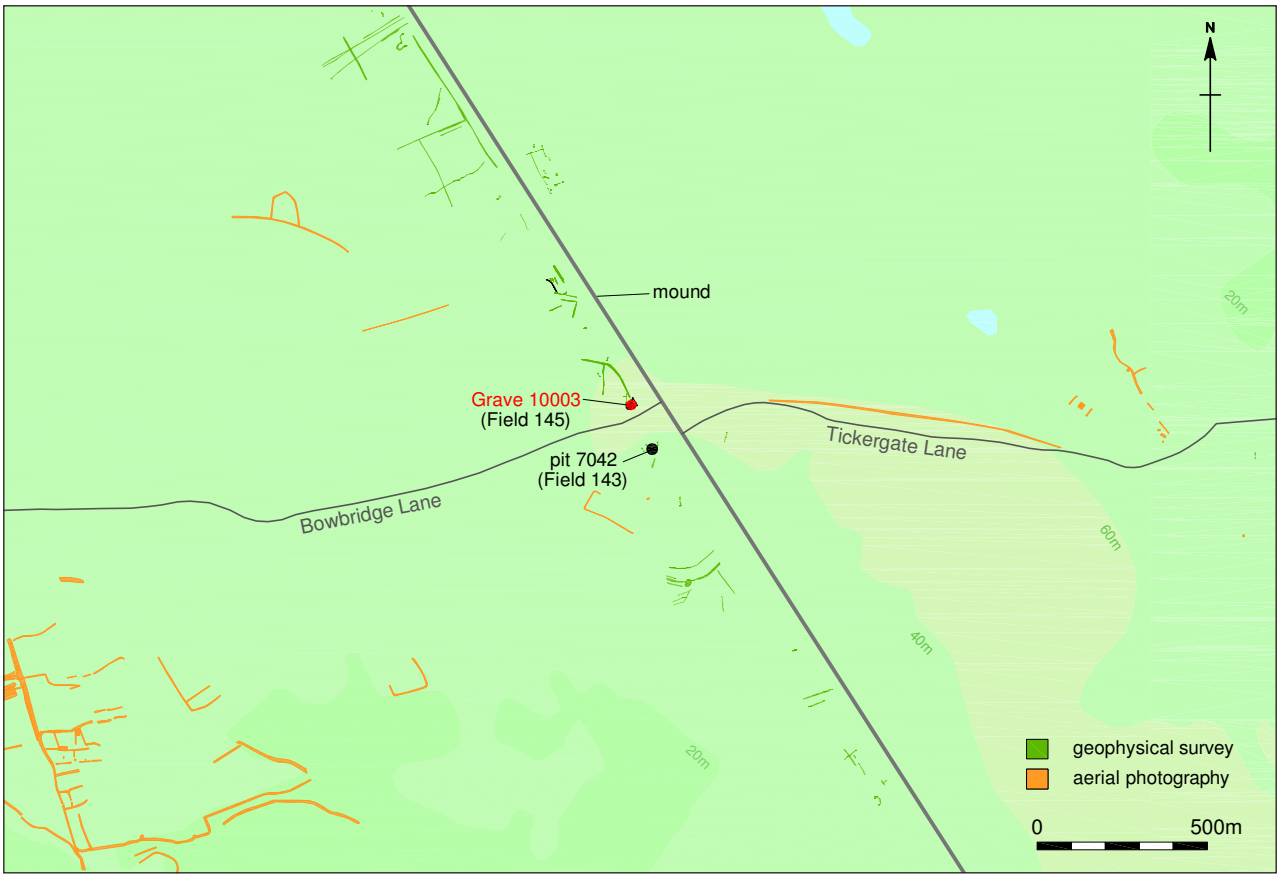


Figure 2.9: Bowbridge Lane: location of excavation in relation to nearby prehistoric monuments.

in both areas did not identify archaeological features (sites LU4–6; Buxton and Quartermaine 1994, appendix 5, 9–10). In 2005, geophysical survey undertaken in Field 145 recorded several linear anomalies, including possible ditched field boundaries and a probable trackway aligned on a similar orientation to the excavated Iron Age enclosure (Hale 2006, figs 61–3).

Few archaeological remains are known within the vicinity of the site. For the Early Bronze Age, the nearest barrows lie 2km to the south-east of Bowbridge Lane, near Leases Hall, where aerial photography has recorded two earthwork mounds (one now ploughed flat) lying within ring-ditches (aerial photographic plotting held by North Yorkshire HER; Deegan 2013). Another mound of unknown origin stands to the east of the A1, opposite the centre of Field 145, but was not affected by the current scheme (Fig. 2.9).

Following the Early Bronze Age, the burial record within the Vale of Mowbray is largely devoid of evidence until the Late Iron Age, with the exception of the group of Middle Bronze Age cremation burials and an inhumation at Nosterfield Quarry (Dickson and Hopkinson 2011, 136–41; Holst 2015). Although unstratified bronze weapons are known from across the Vale, together with small metalwork hoards from Thirsk and Ainderby Steeple (Needham 1990; Manby *et al*. 2003, 93–4), excavated features dated to the Middle and Late Bronze Ages (c.1550/1500–750 cal BC, Needham Periods 5–7; Manby *et al*. 2003, 64–9; Needham *et al*. 2010, table 1) remain extremely rare. Within the 5km radius study area of the A1 scheme, features of Middle or Late Bronze Age date have only been found at Marne Barracks, Scorton Quarry and Pallett Hill Quarry, all in the Catterick area (Hale and Still 2002, 39; Manby *et al*. 2003, 94; Speed 2009a), while elsewhere in the Vale the evidence is limited to the vicinity of Thornborough and Nosterfield, 14km to the south of the A1 scheme (Dickson and Hopkinson 2011, 143–6; Harding 2013, 137).

Excavation in Field 262 during the current scheme, which is situated 1km to the north and in sight of Bowbridge Lane, revealed a possible structure and large pits associated with what have been interpreted as 'burnt mound' deposits (Speed in prep.). Although these features have yet to be dated, the presence of this burnt mound activity suggests a probable Bronze Age date (cf. Brindley and Lanting 1990, fig. 25), and it may be broadly contemporary with the funerary phase at Bowbridge Lane.

EXCAVATION RESULTS

Monitoring of topsoil stripping recovered a sherd of hand-built pottery (context **10000**). Below 0.35m of topsoil, a deposit of reddish-brown clayey silt (**10100**)

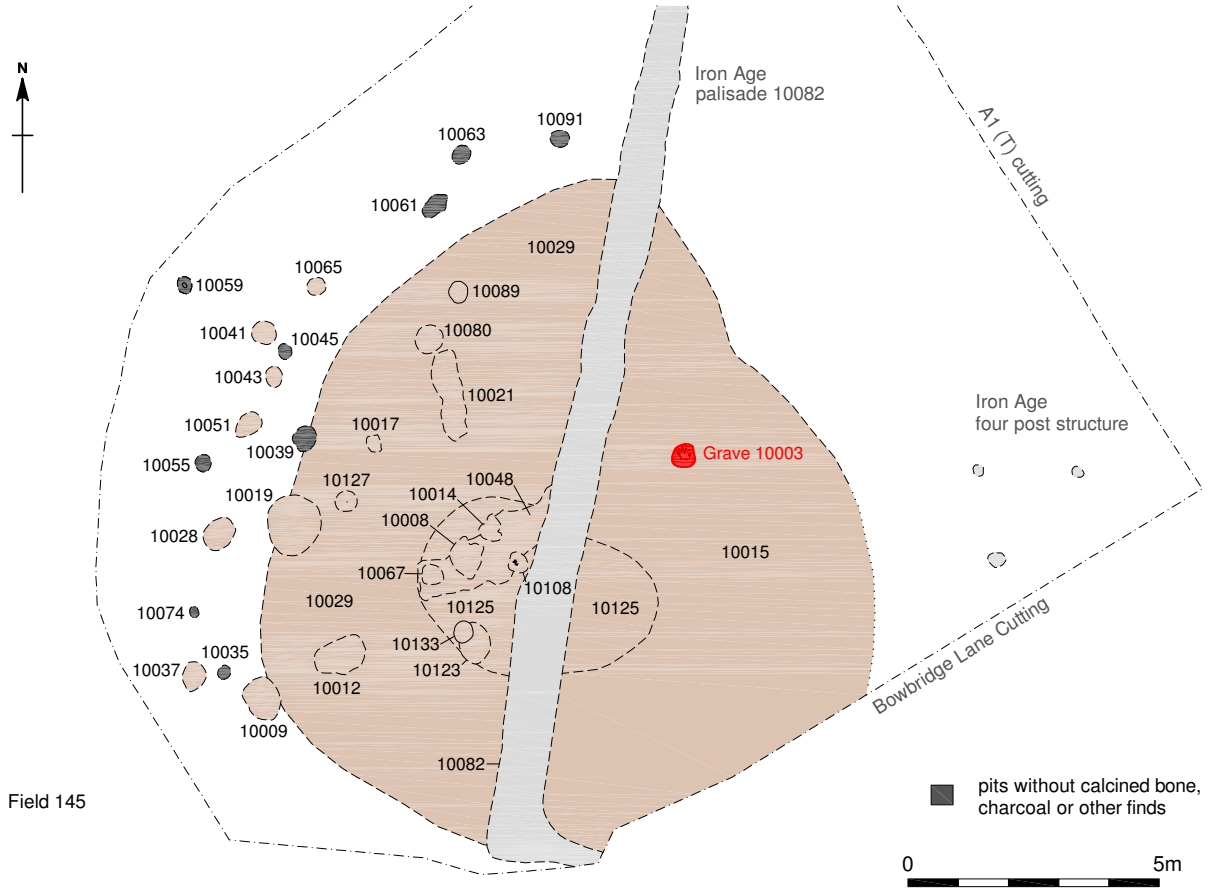


Figure 2.10: Bowbridge Lane: location of Grave 10003 and other features.

was observed, which was up to 0.3m thick and probably represented a buried ploughsoil associated with former ridge-and-furrow cultivation across the area; this directly overlay the archaeological deposits. The geological (natural) deposit (**10001**) in the area of the excavation was light brown sandy silt. Archaeological features were concentrated within an area measuring 20m from north-east to south-west and 18.5m from north-west to south-east, which was subject to detailed investigation (Fig. 2.10). No further significant features were identified in the remainder of the field.

The excavated area was bisected by the perimeter (**10082**) of an Early Iron Age enclosure running from north-northeast to south-southwest (Fig 2.10). The enclosure ditch, which was subsequently reused as a palisade trench, had significantly truncated some of the earlier funerary-related deposits and quantities of redeposited calcined human bone, other burnt materials and pottery were found throughout the fills of the boundary features.

In the central part of the excavated area, natural deposits were overlain by a layer of preserved prehistoric topsoil (**10015/10029** to the east and west of ditch **10082** respectively), which was up to 0.2m thick and consisted of mid-orange-brown sandy or clayey silt. The deposit was sub-circular, measuring 13.5m from north to south and 12.1m wide at its maximum. However, it was truncated at its south-eastern edge by the cutting for Bowbridge Lane (Fig. 2.10). It produced a small assemblage of hand-built pottery, worked flints, and small quantities of calcined bone, carbonised cereal grains and charcoal.

The centre of the soil layer was overlain by an oval cobble platform (**10048/10125**) which measured 4.8m from east to west by 3.4m wide at its maximum. It was 0.15–0.30m thick, tailing-off towards the edges, and consisted of cobbles and sub-angular stones in a matrix of dark greyish-brown sandy silt that contained frequent small fragments and flecks of charcoal, occasional small fragments of calcined bone and 11 sherds of hand-built pottery. Context **10048** was initially allocated to a particularly stony part of the deposit towards its north-western end, where it was thickest, but subsequent excavation could not distinguish any significant difference with the surrounding deposit (**10125**). However, four of the five pits that subsequently cut through the platform (below) were concentrated in the area of context **10048**.

The only feature that could be confidently interpreted as a burial was cut through the soil layer to the north-east of the stone platform. Grave **10003** (Table 2.4) was 0.45–0.50m in diameter and survived to a depth of 0.17m

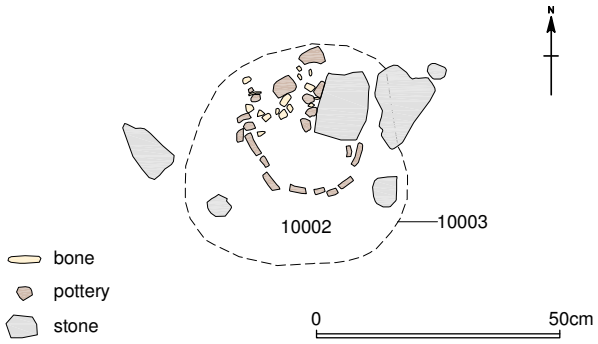


Figure 2.11: Bowbridge Lane: Grave 10003.

Table 2.4: grave catalogue for Grave 10003.

Grave cut 10003	
Shape	Subcircular
Max. dimensions	0.45-0.50m diameter x 0.17m deep
Associated contexts	Fill 10002
Cremation deposit 10002	
Weight (g)	354.1g
Largest fragment (mm)	57.6mm
Identified elements	All areas of skeleton
Colour	White and blueish grey
MNI	-
Age	16+
Sex	-
C14 date	1226–1014 cal BC (calcined human bone, 2930±35, SUERC-75020)
Grave contents	
Cinerary urn	268 sherds (612g) from a badly crushed vessel of indeterminate form.
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	Charcoal (observed on site but not recoverable)
Interpretative date	Late Bronze Age

(Fig. 2.11). It contained the badly crushed and truncated remains of the lower part of a pottery vessel associated with charcoal and 354g of calcined human bone, representing fragments from all parts of an adult skeleton (fill **10002**). A bone sample provided a radiocarbon date of 1226–1014 cal BC (2930±35BP, SUERC-75020).

Other funerary-related features

Twenty pits and postholes towards the western side of the excavation contained small quantities of calcined bone, charcoal and other materials, and were interpreted as associated with the funerary phase of the site, if not themselves representing individual formal burials.

Pits **10133** and **10127** cut through the prehistoric topsoil layer (**10029**) and were sufficiently distinctive in appearance to suggest that they were in some way related to one another. Pit **10133** was only found when the remnants of cobble layer **10125** (see below) were removed and physically the feature lay partially below pit **10123**, which cut through the cobble platform, suggesting that pits **10127** and **10133** had been created early in the sequence of use of the site. They were both up to 0.45m in diameter and had surviving depths of 0.16m and 0.22m, with flat-based U-shaped profiles. Their respective fills (**10126** and **10132**) were of soft dark greyish-brown charcoal-rich sandy silt that contained small quantities of calcined bone, fired clay, some carbonised cereal grains and, in the case of **10126**, a potsherd.

Four of the pits that cut the stone platform were filled with dark brown sandy silt containing charcoal and small quantities of calcined bone. Pits **10067** and **10014** were 0.45–0.50m in diameter and 0.20–0.23m deep, while pits **10008** and **10123** were slightly larger, at 0.85m in diameter and 0.13–0.18m deep. In addition to charcoal and bone, fill **10006** of pit **10008** contained soot, red heat-affected soil and, together with fill **10013** of pit **10014**, fragments of fired clay. The only finds were pottery fragments from fill **10066** of pit **10067** (Cumberpatch and Gibson, Chapter 7), and another undated sherd from fill **10122** of pit **10123**. The fifth pit (**10108**) was 0.40–0.44m in diameter but was truncated and only extant to a depth of 90mm. A group of sherds from the base of a badly crushed pottery vessel (**10107**) were recovered from the bottom of the pit and were sealed by a deposit of brownish-grey sandy silt (**10111**) containing more potsherds. Fragments of charcoal were concentrated over the area of the pottery, suggesting that it had once been contained within the vessel. Therefore, this deposit possibly represented the truncated remains of another cremation burial. This pit also contained a small flake and a crude endscraper of probable Late Bronze Age date.

Pit **10021** lay to the north of the stone platform. It was 1.84m long, 0.55m wide and up to 0.15m deep. It appeared to have two bases both in profile and plan, but there was no evidence to suggest that the pit represented two intercutting features. It was filled (**10020**) by dark greyish brown sandy silt that contained a potsherd, worked flints, and lenses of charcoal and calcined bone; however, 100% sampling of this deposit (c.70l) only recovered 108g of calcined bone, indicating a 'token' deposition of pyre material. None of the bone could be identified as human, although at least some of it was identified as animal bone. A sample of this material provided a radiocarbon date of 976–820 cal BC (2749±32BP, SUERC-76668).

Several other pits incorporated some probable pyre debris. Pits **10080** and **10089**, located to the north of pit **10021**, were 0.45–0.55m in diameter and 0.18–0.25m deep, and were filled with greyish-brown sandy silt (**10079** and **10087** respectively). Deposit **10087** contained some larger stones (**10088**), mainly located against the edges of the cut, and the pit may originally have held a post. Both pits contained soot, charcoal, fired clay and small quantities of calcined bone. Pit **10017** was up to 0.37m in diameter and 0.28m deep. The lower third of the feature was filled with dark brown sandy silt overlain by several flat stones, above which was a similar matrix (**10016**) that contained black and orange lenses of burnt soil, charcoal, fired clay, calcined bone and frequent stones. A sample of hazelnut shell from **10016** provided a radiocarbon date of 924–806 cal BC (2715±35BP, SUERC-75055).

Four more pits were located just beyond the north-western edge of the buried soil layer and contained small quantities of burnt material, including charcoal, calcined bone and fired clay. Pit **10051** was oval, 0.6m long, 0.42m wide and 0.2m deep. It was filled with mid-brown sandy silt (**10050**) around a series of cobbles and angular stones (**10069**), which may conceivably have been post-packing. The fill included a sherd of hand-built pottery and fragments of charred hazelnut shell, which provided a radiocarbon date of 931–810 cal BC (2728±33BP, SUERC-75054). Pits **10043** and **10065** were 0.35–0.42m in diameter, 0.15m deep and were filled with brownish-grey silty clay (**10042** and **10064** respectively). Pit **10041** was 0.5m in diameter, 60mm deep and contained soot-stained light grey silt clay (**10040**). Deposit **10064** contained a fragment of charred hazelnut shell and a worked flint, while **10040** included a charred cereal grain.

Large pits with stony fills

A group of larger pits were cut either through the western part of buried soil layer **10029** or directly into the natural

subsoil beyond its western edge. These features contained distinctive fills of very stony greyish brown sandy silt.

Pit **10009** was sub-circular, 0.70–0.90m in diameter and 0.40m deep. Pit **10012** was oval, 1.15m long, 0.75m wide and 0.35m deep. Pit **10019** was circular, 1.1–1.2m in diameter and 0.3m deep, with steep sides and a broad flat base. Nearby, pit **10028** was smaller, being 0.70m by 0.55m and 0.25m deep. Each pit had a single fill (**10007**, **10011**, **10018** and **10022** respectively) containing numerous stones and cobbles, some of which appeared to have been fire-cracked, together with flecks of charcoal and small quantities of calcined bone. A sample of calcined human bone from fill **10011** provided a radiocarbon date of 1055–847 cal BC (2811±35BP, SUERC-75021). Other finds included hand-built pottery, fired clay, a worked flint, carbonised cereal grains and hazelnut shell. Nearby, a smaller pit (**10037**) had a similar fill (**10036**), which contained charcoal and a carbonised cereal grain, but no calcined bone. Pit **10037** was oval, 0.47–0.62m in diameter and survived to a depth of 0.48m.

Pits without calcined bone or charcoal

Nine pits running in an arc around the western and northern margins of the excavated area were distinguished by the absence of pyre debris (charcoal and calcined bone) within their fills (Fig. 2.10). None of these produced any pottery sherds or other finds, and hence they cannot be dated. Almost all of the pits lay on the margins of the surviving extent of buried soil layer **10029** (pit **10039** cut its edge), and no additional features were found when the soil was removed. From south-west to north-east, this group included pits **10035**, **10074**, **10055**, **10045**, **10061**, **10063** and **10091**. They were typically small and shallow, being 0.18–0.50m in diameter with surviving depths of 0.05–0.12m, and were filled with greyish brown sandy silt or clay. The exception was pit **10061**, which was irregular in shape, being 0.55m long and 0.25m wide.

A similarly sized feature (**10059**) had its base filled with 80mm of mid-brownish-grey sandy clay (**10071**). Above this, the feature contained a central vertical plug of yellow-grey silty sandy clay (**10068**) that was 60–100mm in diameter, possibly representing a post-pipe, which was in turn surrounded by a more extensive deposit of greyish-yellow sandy clay (**10058**).

Field 143

A small pit (**7042**) was found in Field 143, to the south of Bowbridge Lane (Fig. 2.9). This was similar in character to many of the features in Field 145 and may have formed part of the same site. It was 0.6m in diameter, 0.35m deep and filled with dark greyish brown sandy silt (**7043**). It contained a sherd of hand-built pottery, charcoal and fragments of unidentified calcined bone.

DISCUSSION

Although no upstanding earthwork survived at Bowbridge Lane, there can be little doubt that there was once a low mound at this location. Firstly, the survival of a roughly circular area of the ancient ground surface, and the stone platform overlying its centre, implies the former presence of an overlying circular earthwork that served to protect the deposits from disturbance by later agricultural activity (seen elsewhere in the excavated area), in a manner documented elsewhere (e.g. at Ossett, West Yorkshire; Speed 2015a, 61). Secondly, the Iron Age enclosure ditch became shallower as it crossed the area of buried soil and the stone platform, implying that it had originally (assuming a consistent profile) passed over a low raised earthwork that stood above the surviving deposits in this area. The palisade postholes subsequently dug into the lower ditch fill in this same area were of increased depth, presumably to achieve a level top to the timber barrier despite the undulating ground surface. These relatively slight modifications do, however, indicate that the mound was probably of no great height at the time the Iron Age boundary was created, and it is possible that the mound was intentionally slighted at this time in a manner suggested for sites elsewhere in Britain (e.g. Champion 2007, 100). The change in use of the site from funerary to domestic or agricultural certainly implies some disregard for its original funerary function.

As has been noted at numerous other barrow sites across Britain, the mound at Bowbridge Lane covered an area which had seen recurrent activity, not necessarily all funerary, over a prolonged period (Last 2007, 165–6). The topographic position of the site, with wide views to the north and west, would have made it an attractive location for early hunter-gatherers and perhaps accounts for the presence of Mesolithic and Early Neolithic worked flints found associated with the archaeological features in Field 145, including an Early Neolithic leaf-shaped arrowhead.

The pottery assemblage from the site consisted of material that was undiagnostic and separate Late Bronze Age and Early Iron Age traditions could not be distinguished (see Cumberpatch and Gibson, Chapter 7). As a result, dating of the main phases of activity on the site relied entirely on a series of radiocarbon dates. The subsequent reuse of the site included the Early Iron Age four-post structure, which was marked by postholes containing a considerable assemblage of charred grain, and further charred grain was found in the palisade trench. It was possible that this charred grain could have been intrusive within earlier features and it was avoided during post-excavation when

selecting samples from features associated with the funerary phase of activity. Dates obtained for calcined bone and charred hazelnut shell from features associated with the funerary activity at Bowbridge Lane spanned the period 1226–806 cal BC, suggesting that this activity took place within the Late Bronze Age.

At a national level, there is little archaeological evidence for funerary activity from the end of the Middle Bronze Age until well into the Iron Age (Brück 1995, 245), although a small number of Late Bronze Age burials are known. In Yorkshire, several possible Late Bronze Age cremation burials have been found, and radiocarbon dates from charcoal found beneath barrows associated with Late Bronze Age pottery on Ampleforth Moor spanned the Late Bronze Age/Early Iron Age (Wainwright and Longworth 1968; Challis and Harding 1975a, 174; 1975b, 57; Manby 1980, 321–3). As well as 'formal' burials, a pit excavated at Easington in Holderness contained a 'token' amount (1.3g) of cremated bone, along with charcoal, pottery and briquetage sherds, and provided a radiocarbon date of 1100–900 cal BC (Richardson 2011, 63). Similarly, at Ferrybridge in West Yorkshire, a small quantity (157g) of cremated bone, which had been placed in a pit alongside several sherds from a large jar, was radiocarbon dated to 980–790 cal BC (Wheelhouse 2005, 29). In addition to cremation burials, disarticulated unburnt Late Bronze Age human bones have been found at several sites in Yorkshire, and at Heathery Burn Cave, Co. Durham, an assemblage of human bone was found associated with an extensive assemblage of Late Bronze Age metalwork (Greenwell 1894).

Construction of the probable mound at Bowbridge Lane sealed (and hence post-dated) evidence for a sequence of Late Bronze Age funerary activity. Following initial activity represented by the deposition of pyre debris in pits **10127** and **10133** and within the buried topsoil layer **10029**, a stone platform was laid onto the old ground surface. Similar features have been found below the Early Bronze Age Hutton Buscel Barrow 2 on the North York Moors to the west of Scarborough (TA 9595 8720) and at other barrows on the Yorkshire Wolds (Brewster and Finney 1995, 7 and 30).

Although no direct evidence survived for a cremation pyre on the site, such as in situ burning, the presence of charcoal, calcined bone and fired clay throughout the stone platform and its associated pits, together with the presence of at least one urned cremation burial nearby (Grave **10003**), supports its interpretation as a pyre site. Ground surface pyre sites have been found sealed beneath Bronze Age barrow mounds elsewhere (McKinley 1997, 132), and this practice continued into the Iron Age and Roman periods (e.g. Jobey and Tait 1966, 25–33; Charlton and Mitcheson 1984, 20–1). McKinley (2017b, 260–1) has demonstrated via experiments the potentially ephemeral impact that such activity may have had on the ancient ground surface. However, the approximate location of one pyre may be indicated by the observation that calcined bone, burnt white at a high temperature, was mainly clustered within the fills of six pits located in the north-western quadrant of the site (features **10017**, **10019**, **10028**, **10041**, **10051** and **10127**).

It is impossible to say how many individuals were cremated at Bowbridge Lane. The majority of the calcined bone recovered from the various features could have derived from a single adult, although bone fragments from a juvenile, which were residual within the Iron Age enclosure boundary, must have come from a second individual. No obvious 'primary' central burial survived, possibly as a result of the Iron Age boundary truncating the centre of the site. This supposition is supported by the Late Bronze Age radiocarbon date obtained from carbonised residue adhering to a potsherd found in the Iron Age ditch (fill **10116**; 1042–908 cal BC; 2818±24BP, SUERC-76345). In contrast, unburnt animal bone from the primary fill of the same feature produced an Early Iron Age date of 796–542 cal BC (context **10120**; 2524±31BP, SUERC-76341). The one certain burial of human bone inside a pottery vessel within pit **10003** lay near the edge of the buried soil layer and may have been a secondary burial.

Of the many other 'funerary-related' features found, consisting mainly of small pits, two stand out as being distinctive. Pit **10108**, which was very shallow and presumably truncated, contained the base of a pottery vessel and may have represented the remains of second formal burial urn, although no bone was found. Apart from grave **10003**, pit **10021** was the only other feature at Bowbridge Lane that produced even a moderate quantity of calcined bone (108.5g), although only a few fragments of animal bone could be identified. The form of the pit itself was also of interest. Conjoined or double-based pits containing deposits of cremated human remains have been recognised at Early Bronze Age sites, such as Hollow Banks Farm near Catterick Bridge, and at Ossett, West Yorkshire, both of which contained cremated human remains within Collared Urns (Speed 2005; 2015a, 13), and possibly at Nosterfield, dating to the Middle Bronze Age (features 050092 and 050093; Dickson and Hopkinson 2011, 140 and fig. 127). The purpose of such elaborate features is unclear but perhaps echoes the paired (albeit separate) pits commonly found on non-funerary Neolithic and Early Bronze Age sites. If these are related phenomena, there is the question of whether there is some significance in separation of

the pits in the context of the living world compared to their conjoining in death. There is clearly potential here for future research, as with other aspects regarding the meaning behind prehistoric pits (Garrow 2012, 223).

Apart from the certain and possible 'formal' burials, the Late Bronze Age funerary phase at Bowbridge Lane also encompassed a series of small pits that contained a range of deposits, including varying, smaller quantities of pyre debris (calcined bone, charcoal, fired clay and burnt soil), pottery sherds, flints, charred foodstuff (grain and hazelnut shells), and stones. As noted above, Late Bronze Age pits containing small quantities of calcined bone, charcoal and pottery have been found elsewhere in Yorkshire (Wheelhouse 2005, 29; Richardson 2011, 63), although a closer parallel to the multiple features excavated at Bowbridge Lane has been found at the broadly contemporary site at Stone Hall, to the west of Great Dunmow, Essex, where pits suggested to contain sufficient calcined bone (>100g) to be considered 'proper' cremation burials lay in two groups amongst other features, some of which contained only token amounts of pyre materials or none at all (Powell 2007). One pit contained a pottery vessel but only 1g of bone. Other sites investigated as part of the same project produced smaller numbers of cremation burials that were possibly associated with nearby pits containing a range of cultural debris, suggesting a close relationship between funerary, settlement and agricultural activities (*ibid*., 42–4).

Some of the pits at Bowbridge Lane, particularly **10017** and **10021**, contained complex lenses of charcoal, calcined bone and soil, and, in the case of **10017**, a layer of flat stones, which suggests an intentional and elaborate sequence of filling. Brück (2008, 27) has noted this phenomenon in Late Bronze Age burials elsewhere and suggests that "cremation rites were complex and multi-phase activities". A metaphorical connection in this period has been suggested between the 'lives' of inanimate objects (pottery, quernstones and even houses) and the human body. At the end of their 'lives', objects were commonly deliberately fragmented, perhaps as part of a cyclical pattern of death and regeneration, which also seems to have happened to many human remains, and they could be equally carefully deposited (Brück 2001).

The arc of pits that did not contain pyre debris, carbonised grain or pottery, and had a near-absence of charcoal, were clearly distinct from the pits that did contain such material. The arrangement of these pits had a strong association with the extent of buried soil layer **10029**, with all of the features lying no more than 2m beyond (and in one case cutting) its edge. They were all small and could conceivably have been postholes or perhaps, if the barrow was once kerbed, the sockets for small, widely-spaced orthostats. Timber circles are commonly associated with barrows and other funerary sites across Britain (Gibson 2005, 155–73), and stone kerbs were a common feature of barrows on the North York Moors, and more widely across Yorkshire (Brewster and Finney 1995, 30), although they were usually constructed in a continuous slot. Buried soil layer **10029**, the overlying cobble platform and all directly associated features contained varying combinations of pyre debris and/or pottery, as did the later palisade trench. Since, logically, the arc of pits must post-date the process that had created the circular form of the soil layer (in order to follow its shape), the absence of the otherwise ubiquitous pyre debris within them suggests that the pyre debris had in the meantime been constrained in some way. Sealing of the pyre debris beneath an earthen mound seems the most likely explanation for this phenomenon. Perhaps the material for the mound had been acquired by stripping the surrounding turf and topsoil, and this would have removed any surface pyre debris from the area where the arc of pits was subsequently excavated. Removal of earlier archaeological materials along with the soil from the area surrounding a barrow during its construction has been documented elsewhere in North Yorkshire, such as at Green Howe, North Deighton (Wood 1971; Manby *et al*. 2003, 97). At Hutton Buscel Barrow 2, near Scarborough, where a stone platform had been covered by an initial mound of turf, subsequent enlargement of the mound involved scraping up the surrounding topsoil, in places entirely removing the original ground surface around the primary mound (Brewster and Finney 1995, fig. 11) in a process similar to that suggested for Bowbridge Lane.

In summary, the sequence during the funerary phase at Bowbridge Lane consisted of initial cremation activity resulting in deposition of scattered cremated human bone and other material, such as charcoal, fired clay and potsherds, within the ancient topsoil and pits cut through it. A roughly circular cobble platform was subsequently laid on the ground surface, sealing part of the topsoil layer and one of the pits. More calcined bone and other burnt materials, presumably derived from further cremations, accumulated within and over this platform. Pyre debris was also deposited, along with charred foodstuffs and pottery sherds, within a series of pits excavated through and around the platform, which conceivably functioned as a pyre-base (although no evidence for in situ burning survived). The platform and part of the surrounding ground surface, together with a number of the pits, were subsequently sealed by a mound, which appears to represent the end of the active funerary phase of the site. Either at this time, or subsequently, a series of small

pits were excavated around the north-western perimeter of the mound, distinguished from the earlier pits by an absence of pyre debris or artefacts within their fills.

A barrow with a view

Almost all of the pits (both with and without pyre debris) in Field 145 lay within the western and north-western part of the excavated area, even those that cut the circular stone platform. The only significant exception was the cremation burial (Grave **10003**). What was attractive about this north-western side of the site? It could have some cosmological significance, perhaps the funerary opposite of the south-east-facing doorways commonly (but by no means universally) found in the later prehistoric roundhouses of the living (Pope 2007, 213). The site was once (before the adjacent A1(T) cutting was created) positioned on the end of a spur projecting from the ridge of higher ground to the south-east. Today, it lies above several ponds and Scurf Beck; however, these features represent the drained remnants of the northern end of a large prehistoric wetland area (Crakehall Ings) dammed against the western edge of the ridge formed by the Leeming Moraine (Chatterton 2005, fig. 3:20).

Nationally, there is evidence for change in the way that human remains were treated in the Late Bronze Age, in what Brück (1995, 264) describes as a "new set of relationships with the ancestors". However, a number of traits (such as deposition of cremated remains with pottery vessels) continued from the Middle Bronze Age. Although barrows may occasionally have been constructed elsewhere in Britain during the Late Bronze Age, for instance in Eastern England (Cooper 2016, 298), there is a lack of regional parallels for the Bowbridge Lane site, and it seems reasonable to seek local comparisons for funerary ritual amongst the rather larger dataset from the earlier part of the Bronze Age. A recent study of the position of known or probable Early Bronze Age barrows, undertaken a short distance to the north in County Durham, identified a strong preference for locations either on hillside spurs or hill-slope plateaux, with several others lying on hill-slopes (Speed 2015b, 65). Only occasional examples were located on either hilltops or low-lying ground. The majority of sites overlooked water, either streams, rivers or the North Sea, or in one case a bog. It can thus be suggested that the funerary features at Bowbridge Lane were located on a similar hillside spur and 'faced' the former wetland area to the west, with the Pennine foothills beyond.

SUMMARY OF THE A1 PREHISTORIC CREMATION ASSEMBLAGES

Three isolated cremation burials were identified in three different fields at Killerby, Catterick Racecourse and Scotch Corner, and a fourth single burial together with 24 contexts containing cremated bone thought to be funerary-related deposits at Bowbridge Lane.

GRAVE GOODS

In the Bronze Age, grave goods are relatively uncommon (McKinley 1994, 133), but where they do occur, they were burnt with the body (McKinley 1997, 130), as is the case for the burnt pin in Grave **6887**. Bone artefacts are common in Bronze Age cremation burials (*ibid*., 132). Other than the pin and the urn in Grave **10003** at Bowbridge Lane, no further grave goods were found. Around 16% of the 130 Bronze Age cremated bone assemblages analysed by McKinley (*ibid*., 132) contained small quantities of cremated bones from animals. Of the 157 Bronze Age cremated bone assemblages from a number of sites analysed by the authors (SN and KK), three also contained worked bone objects, while others contained worked flint, animal bone, charred grain, earrings, a battle axe, shells, fired clay and copper objects.

Only one of the four burials from the A1 scheme (Grave **10003** at Bowbridge Lane) was urned. For comparison, of the sample of 157 Bronze Age cremation burials analysed by the authors, 45 (28.7%) were urned.

BONE SELECTION

It is very rare that all the bone from one individual was buried. It has taken McKinley (1993, 134) around four hours in experimental cremations of sheep to collect the full skeleton. In the absence of complete collection, it has been shown that collection of elements was relatively random (McKinley 1997, 131). Raking of the pyre to collect the bone assists in easier collection of the cremated remains (*ibid*., 136), but would also accentuate this randomness.

PYRE DEBRIS

Deposits of pyre debris tend to have mixed characteristics and contain charcoal, burnt stones or flint, burnt clay, artefacts and cremated bone. They are common near pyre sites (McKinley 1997, 137), which was the case at Bowbridge Lane, where all the funerary-related features usually contained at least two of the characteristic materials for pyre deposits. Such pyre debris deposits tend to contain a random collection of cremated bone that was not required for burial (*ibid*., 137).

Pyre debris can occur in a variety of contexts, including pre-existing features, deposits in burials or scattered deposits, and especially excavated features (*ibid*., 137), the latter of which can easily be confused with unurned cremation burials (*ibid*., 139). Pyre debris is rare in actual cremation burials and usually only large fragments of

charcoal are noted (*ibid*., 143). In 77 Middle Bronze Age cremation burials/funerary-related features analysed by McKinley (*ibid*.), charcoal was recovered from 37 features (48.1%) and 22 (59.5%) of these contained less than 100g of bone, suggesting they may constitute pyre debris. However, six features containing charcoal also included substantial quantities of human bone and seven of the burials including charcoal were urned. This suggests that inclusion of charcoal does not necessarily imply that a deposit represents a dump of pyre debris rather than a burial.

Charcoal was noted (but not in all cases recovered) in all of the cremation burials from the A1 scheme and all but five of the funerary-related contexts at Bowbridge Lane. This latter group of features contained on average 2.5g of bone.

PREHISTORIC BURIAL IN THE NORTHERN VALE OF MOWBRAY

McKinley (2017a, 24) has observed that prehistoric burials are commonly 'unexpected' finds on archaeological projects, frequently undetectable by geophysical survey and often missed by trial trenches. None of the recently discovered burials (and a number of earlier discoveries in the Vale of Mowbray) would have been identified by remote-sensing techniques, such as aerial photography or geophysical survey. The levelled remains of the mound at Bowbridge Lane were not detected by either technique, nor was the large, deep palisade trench cutting through it, and the pits containing the cremation burials at Killerby and Catterick Racecourse would have at best been recorded as small isolated features of uncertain date or function and unlikely to be deemed worthy of targeted follow-up excavation. However, where there has been continuous and diligent monitoring of soil-stripping, such as that undertaken on the A1 scheme, identification of such 'unexpected' remains can add greatly to our knowledge of past populations and their responses to mortality.

Although there are a number of known or suspected barrow mounds within the northern part of the Vale of Mowbray (see Chapter 1), there are relatively few records of cropmark ring-ditches that indicate the sites of levelled monuments (these are mainly concentrated around the Scorton Cursus), and it seems likely that many barrows in the area never possessed such a feature. The Bowbridge Lane site apparently possessed a mound, yet lacked an encircling ditch, and earlier monuments, such as the Catterick Racecourse cairn (Moloney *et al*. 2003) and the barrows at Quernhow and Green Howe (Waterman 1951; Wood 1971; Speed in prep.), were also without such a feature.

The Early and Middle Bronze Age burials at Killerby, Catterick Racecourse and Scotch Corner had a number of elements in common. They were each placed several hundred metres from the nearest known monuments. In the past, such monuments have typically formed the focus for any archaeological investigation. Although most of the Bronze Age dead remain invisible in the archaeological record, the recent results suggest that this is, in part, a result of looking for them in a restricted range of places (i.e. within or adjacent to visible ritual or funerary monuments). At all three sites, the graves were placed in locations looking slightly upslope towards the nearest known monuments; the Killerby burial towards the probable Bainesse Cursus, the Scotch Corner burial towards Violet Grange Barrow, and the Catterick Racecourse burial towards the nearby burial cairn/henge. However, the significance of this observation is currently unclear and is a question for further research.

At Scotch Corner, despite the absence of any known Neolithic monuments, the immediate area may have been a focus of activity in the Bronze Age due to the area's mineral resources. The limestone bedrock below the site contains veins of very high grade copper ore, similar to those exploited during the Bronze Age at the Great Orme near Llandudno and Ecton Hill in the Peak District (British Geological Survey 1998; Timberlake and Marshall 2018, 420–5). Although there is no evidence for Bronze Age extraction at Scotch Corner, the A1 scheme excavations found some evidence for probable Roman exploitation of the ore (Fell forthcoming) and there was extensive mining activity around Middleton Tyas (just to the east of Scotch Corner) during the 19th century (Hornshaw 1975). Although archaeological evidence for Bronze Age copper mining in Britain is concentrated in south-west Ireland, the Isle of Man, central and north Wales and north-west England (Timberlake and Marshall 2018, 420–5), it is entirely likely that there was some exploitation of ore within the Yorkshire Pennines. The only other copper ore sources in mainland Britain as rich as those at Scotch Corner/Middleton Tyas are found at the Great Orme and Ecton Hill. Both of these have been associated with Early Bronze Age burials. Therefore, similar early copper mining could have provided a focus for the funerary activity at Scotch Corner.

Each of these three burials was apparently isolated and consisted of a dump of pyre debris (charcoal and calcined bone) in a small circular or sub-circular pit without any evidence for a container, such as a pottery vessel, organic bag or box. Such mixed deposits are common in Early Bronze Age funerary deposits (Fowler 2015, 70–1). Other than the bone pin found in the Early Bronze Age Killerby burial, which presumably fastened clothing worn by, and burnt with, the body, there was no evidence for any

pyre goods or food offerings (whether animal or plant) in any of the burials. Pyre fuel was, where identifiable, mostly oak, although some *Prunus* charcoal was found in Grave **1391** at Catterick Racecourse (Baines, Chapter 9). The burials at Killerby and Scotch Corner contained the remains of two or more individuals, which was relatively common in Bronze Age burials, either as a result of cremating several individuals together, deliberate mixing of remains, or accidental inclusion as a result of reuse of pyre sites (McKinley 1997, 130–1; Fowler 2015, 71). These common traits amongst the recently excavated burials suggest that, for those not privileged to be buried within one of the barrows in the area, the form of funeral was relatively uniform throughout much of the 2nd millennium BC.

This stands in contrast to the funerary ritual found at the Late Bronze Age site at Bowbridge Lane. Here, apart from the one discrete urned burial, which was found to one side of the main area of activity, cremated human remains and pyre debris were found in small quantities scattered in the fills of pits and within the Bronze Age topsoil, in many cases mixed with what appeared to be debris either from domestic activity or funerary rituals, including potsherds, flints and food debris. As discussed above, the Late Bronze Age seems to have seen a change in the cultural barriers separating the realm of the dead from that of the living.

The discovery of the Late Bronze Age burial site at Bowbridge Lane represents a significant addition to the sparse evidence for this period from the region and has begun to fill a significant gap in our knowledge of local burial practices. The range of features present, most of which were not immediately recognisable as having a funerary function, suggests that such evidence may be more widespread but is not easily identifiable. The small quantities of calcined bone that were present in many of the features could easily have been missed had the extensive soil sampling programme not been undertaken. It is possible that similar sites dated to the Late Bronze Age and Early Iron Age have not been recognised in the past, both in Northern England and more widely, due to the tiny 'token' amounts of bone present (e.g. Roth 2016, table 9.1).

As described in Chapter 1, evidence for prehistoric funerary practice within the northern part of the Vale of Mowbray (and indeed for the Vale as a whole) has previously been limited to the Early to Middle Bronze Age and the Late Iron Age. How people in the area disposed of their dead throughout the majority of post-glacial prehistory in the area, however, remains unknown. The results from the current scheme have added to the sparse dataset for the first of these periods and begun to fill the gap in between with the addition of a Late Bronze Age site. The evidence from Bowbridge Lane represents the only certain funerary evidence from the area for a period spanning nearly a millennium. The observation of possible 'token' burial may contribute towards an explanation for the apparent 'invisibility' of the dead for the Late Bronze Age and Early Iron Age, both in Northern England and more widely across Britain.

CHAPTER 3
BURIAL AT BAINESSE CEMETERY AND ITS SURROUNDING AREA

Alan Teasdale, Greg Speed and David G. Griffiths

INTRODUCTION

This chapter discusses the Roman burials, and at least one early medieval inhumation, found at four locations close to the Roman roadside settlement at Bainesse, located to the south-west of the modern village of Catterick (Fig. 3.1). Areas of the Roman settlement investigated during the A1 scheme were all located to the west of Dere Street and mostly lay along the route of the new alignment of the A1, which diverged from the line of the Roman road and avoided the core of the Roman settlement. Archaeological remains of Roman date along this road corridor were excavated in Fields 157, 160, 162, 163 and 164. In addition, smaller isolated interventions were undertaken within the loop of the former Catterick South intersection (Field 159A) and for a new field access at the eastern side of Field 163 (designated 163E). Human burials were found in Fields 157, 159A, 163C and 163E.

The Roman settlement at Bainesse is now known to have extended along Dere Street for a distance of at least 1.5km, running north-westwards from south of Bainesse farm to cross Brough Beck and continuing at least as far as the Manor House. The recent investigations have shown that an extensive area of Roman enclosures lay to the west of the Roman road. To the east of the Roman road, evidence for activity to the south of Brough Beck included enclosures and at least one substantial masonry building within what is now Marne Barracks. To the north, geophysical survey suggests a possible Roman roadway running east from Dere Street, parallel to the beck, which led in the direction of Catterick village green.

The excavated corridor in Field 157, to the south of Bainesse, ran across undulating terrain at the foot of an east-facing scarp that led up to higher ground to the south-west. Fields 160 and 162 occupied a relatively level terrace to the south of Brough Beck at a level of 60–65m aOD. This extended eastwards into the west-central part of Field 163, before sloping gently down to the east (towards Dere Street) and more steeply to the north down towards the beck. Bainesse Cemetery was located at the top of the east-facing slope. Brough Beck crosses the area from south-west to north-east. Its straight modern course is a result of its canalisation to improve flow to the former Catterick Mill. It previously followed a meandering course (Speed 2017, 54–5); as a result, its precise alignment during the Roman period is uncertain.

The interventions in Fields 163E and 159A both lay on fairly level ground adjacent to the former A1(T) at a height of c.56m aOD.

ARCHAEOLOGICAL BACKGROUND

The presence of a Roman settlement at Bainesse has been known since the 18th century (Wilson 2002a, 31), with most of the early discoveries made in the vicinity of the nearby farmhouse (also known as Bainesse). Evidence for a roadside settlement further to the north was found opposite Field 163 in 1929, during excavation of an electricity cable trench on the line of the Roman road (McIntyre 1929). In 1939, a Roman masonry building, interpreted as a villa, was discovered to the east of the farm, within RAF Catterick (now Marne Barracks). Further parts of what might be the same building were investigated in 1966 and 2015 (Hildyard 1955; Cramp 2002a; Sherlock 2017, 82–96). Additional walls were noted in 1959, during construction of the A1 Catterick Bypass to the south of the Tunstall Road bridge and adjacent to Field 159A (Wilson 2002a, 32). In 1981–82, geophysical survey and wider excavations in advance of construction of the Catterick South A1 junction revealed more extensive evidence for Roman settlement on either side of Dere Street and to the north of Bainesse (CfA Site 46; see Bartlett 2002, 1 and fig. 18; Wilson 2002a, 139–85). In the 1990s, both trial trenching for the cancelled A1 improvements and a separate metal detecting and fieldwalking survey showed that the settlement continued southwards along the line of Dere Street to the south of Bainesse farm (CfA Sites 506 and 524; Wilson 1994; Brickstock *et al*. 2007), while Roman features found during excavations within Catterick village suggest that some settlement may have extended further to the north-east (Cooper 2006). Geophysical surveys undertaken both as part of the current A1 improvement scheme and during other developments have served to map out much of the extent of the settlement and some of its immediate agricultural hinterland (Hale 2001; 2005; James 2017).

Prior to the current scheme, human burials had been recorded during several earlier excavations. Roman back-plot burials of later 2nd-century to early post-Roman date were found to either side of Dere Street during construction of the Catterick South flyover in the early 1980s (CfA Site 46; see Wilson 2002a 164–84). A number of Anglian graves were recorded

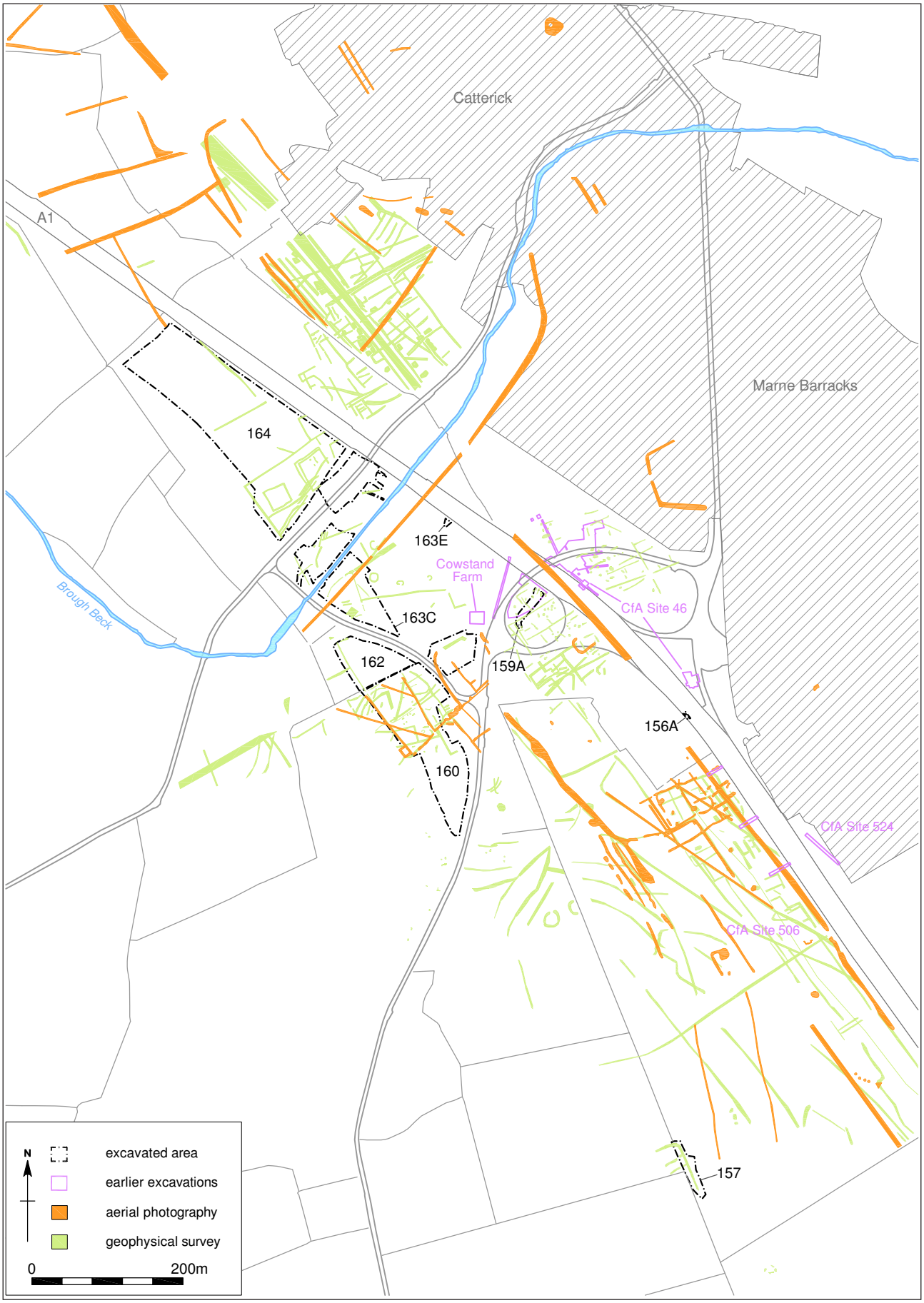


Figure 3.1: plan of Bainesse Roman settlement showing excavated areas in Fields 160, 162, 163, 164, 159A and 163E.

in the same area by Wilmott in 1959 and also during the CfA excavations (Wilson *et al*. 1996, 4–5 and 32–45). Anglian burials have also been found cut into the possible villa buildings within Marne Barracks (Wilson *et al*. 1996, 29–32; Sherlock 2017, 84–96). In 2000, up to three Roman graves were found during construction of a telecommunications mast within the south-eastern edge of Field 163 (Cowstand Farm). One of these contained the poorly preserved skeleton of an adolescent accompanied by nailed footwear, while a second, in which there were no preserved human remains, contained a Roman tinned bronze spoon. These burials were suggested to be of late 1st- to early 2nd-century date (Taylor-Wilson 2001, 13). One of the trial trenches excavated for the current scheme in Field 163 identified a cist burial (Speed 2006b, 19–20; 2008, 7). The recent excavations have demonstrated that this burial formed part of the larger Bainesse Cemetery within Field 163C and it has been incorporated into the following account as Grave **217**.

BAINESSE CEMETERY (FIELD 163C)

The excavation within Field 163C uncovered the south-western edge of a cemetery that was in use during the Roman and early post-Roman periods. It was located approximately 190m south-west of Dere Street (Fig. 3.2). An early medieval burial was also found within the cemetery area. Geophysical survey indicates evidence of extensive Roman roadside settlement the north and south of Field 163 (Fig. 3.1), and observations by McIntyre (1929) have shown that at least one Roman stone building lies adjacent to the road in the area between. This suggests that there was continuous roadside development alongside the cemetery site. A linear geophysical anomaly recorded in the central south-eastern part of Field 163, running parallel to Dere Street, is analogous to a boundary that delineated the rear of roadside settlement enclosures to the west of Bainesse. The cemetery was surrounded on the other three sides by an extensive enclosure complex, which projected to the south-west of the linear roadside development (Fig. 3.1).

The cemetery was bounded to the north-west by a large ditch, separating it from Brough Beck, with ditched enclosures beyond the stream in Field 164. To the south-west, the cemetery respected the ditches of an enclosure that was connected to the north-western ditch, which contained a substantial timber building (structure group **12920**) of uncertain function. There was no evidence for a physical boundary to the cemetery on its south-eastern side, although the burials seemed to respect a continuation of the south-eastern side of the adjacent enclosure. The enclosures continued southwards into Field 160 and 162, and then eastwards across the southern edge of Field 163. The enclosures excavated in Fields 160, 162, the southern edge of Field 163 and Field 164 appear to have had a predominantly industrial or agricultural function. Pottery evidence suggested that all these enclosures were in use in the later 1st and early 2nd centuries but subsequently became disused (see Chapter 7), probably prior to commencement of burials in the excavated part of Bainesse Cemetery (discussed below), although some later Roman activity was recorded in Field 160.

The investigated part of the cemetery was 54m wide from north-west to south-east, with no further burials found within the motorway construction corridor either to the north-west or south-east. A strip, up to 19m wide, was exposed during the excavation along the south-western edge of the cemetery. In total, 232 features interpreted as inhumation graves, 121 of which contained bone or teeth, and 17 cremation burials were identified and excavated. A penannular gully and part of a ring ditch, both associated with the cemetery, were recorded in the south-eastern part of the area. Four sub-circular or slightly sub-ovoid pits were also recorded, two of which, because of their location in relation to inhumations, were tentatively considered as being intended for grave markers, although all were devoid of dating evidence. An elongated pit, located beyond the south-east limit of the cemetery, was ostensibly grave-like in plan but the longitudinal section demonstrated that the ends sloped gently to a short flat base. Several graves had been disturbed by a post-medieval field boundary, comprising two phases of ditch, which bisected the cemetery on an east-northeast to west-southwest alignment.

There was no clear indication of an ordered, uniform layout to the inhumations, although some putative lines, strings and 'block' groups of similarly aligned graves could be argued for. Across the site, the density of burials ranged from relatively small areas containing concentrations of intercutting graves, to seemingly blank areas containing no graves at all. The densest areas contained stratigraphic sequences of up to six separate phases of burial. All but two of the cremation burials were in the southern part of the site in close proximity to, and in two cases cutting the fill of, the ring ditch. The remaining two cremation burials were located close together in the central part of the site.

The preservation of skeletal remains within the inhumations was extremely variable. Sixty-eight graves were completely devoid of any bone. Where skeletal remains were present, they ranged from fragments of tooth enamel to largely complete skeletons. Skeletal remains were recorded on site in 121 of the inhumation graves, producing evidence for 127 individuals (see Chapter 6), although their positive identification as primary burials was not always possible, especially in cases where there was minimal bone preservation. Some certainly

Figure 3.2: Bainesse Cemetery during excavation, looking south-east. The roadside settlement lay immediately beyond the trees in the background.

represented only redeposited bone. The remainder of the graves contained only dispersed disarticulated remains, in most cases retrieved from environmental sampling of the grave fills. However, human skeletal remains were present in all 17 cremation burials.

Dating and phasing

Wherever possible, radiocarbon dates for each of the burials were obtained from human bone. In total, dates were obtained from 79 skeletons and all 17 cremation burials, along with an additional four from redeposited human bone recovered from grave fills. In addition, finds and stratigraphic relationships have contributed to some of the interpretive dates provided in the grave catalogues. For Bainesse Cemetery, Bayesian modelling of the radiocarbon dates that incorporates both stratigraphic relationships and artefactual evidence has been used to provide modelled dates for many of the burials (see Chapter 10). Using these modelled dates, in combination with a modelled overall date range for the use of the cemetery, an attempt has also been made to suggest date ranges for graves where no dating evidence was available but stratigraphic relationships to dated graves were present. This has been achieved using the earliest modelled date for the immediately preceding event (either a stratigraphically earlier grave or the start-date for use of the cemetery) and the latest modelled date for the immediately following event (either a stratigraphically later grave or the end-date for use of the cemetery). Where graves cut one another but there was no indication that this was intentional, a 20-year adjustment has been made to the associated end of the suggested date range to allow for any mound left over the earlier grave to have settled (this being the minimum level of grave marking which might have been expected). Such settling was recognised in antiquity. For example, Sidonius Apollinaris (Liber III Epistula XII) noted in the 5th century AD that, in the part of a cemetery where his grandfather had been buried, "snows and constant rains had caused the mounds to settle; the raised earth had been dispersed, and the ground had resumed its former even surface" (Dalton 1915, 78–9). Anecdotal evidence and personal observation suggest that the small mound left above a modern inhumation remains recognisable as such for several decades, but probably no longer, before being levelled by erosion.

The ring ditch

Ring ditch **12500** was partially exposed at the east side of the excavation, towards the south end of the cemetery. The ditch measured up to 0.85m wide by 0.50m deep and had an external diameter of 7.20m. It is known that the feature was created and became disused during the life of the cemetery, as it post-dated several inhumations (Graves **197**–**201** and **229**), and two cremation burials (Graves **262** and **263**) were subsequently cut into the fill of the ring ditch. No burials were recorded in the enclosed area, which suggested this was restricted even before the ditch was dug. Unfortunately, the exact centre of the enclosure lay just beyond the limit of excavation, so the presence or absence of a central feature could not be determined.

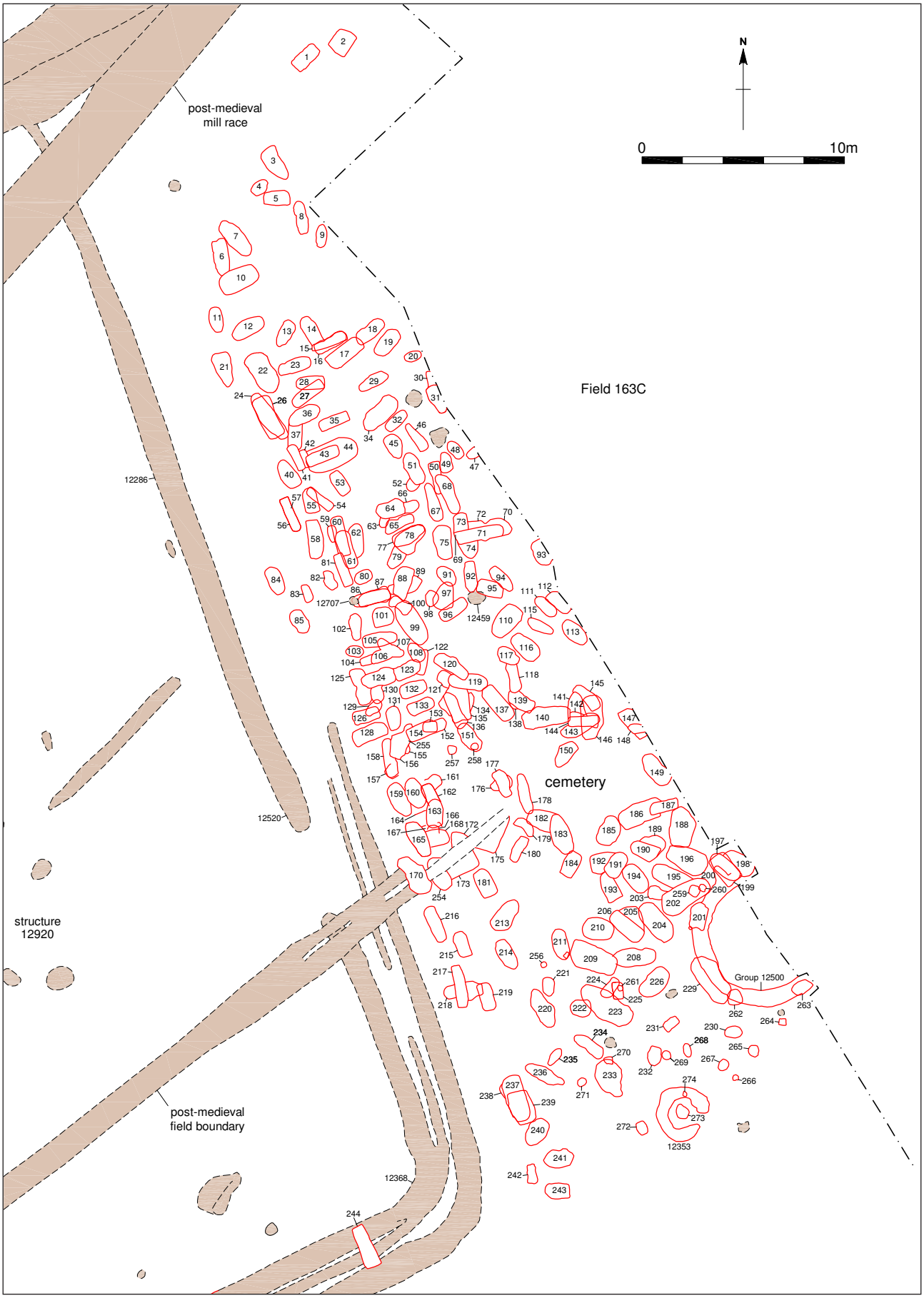


Figure 3.3: plan of Bainesse Cemetery.

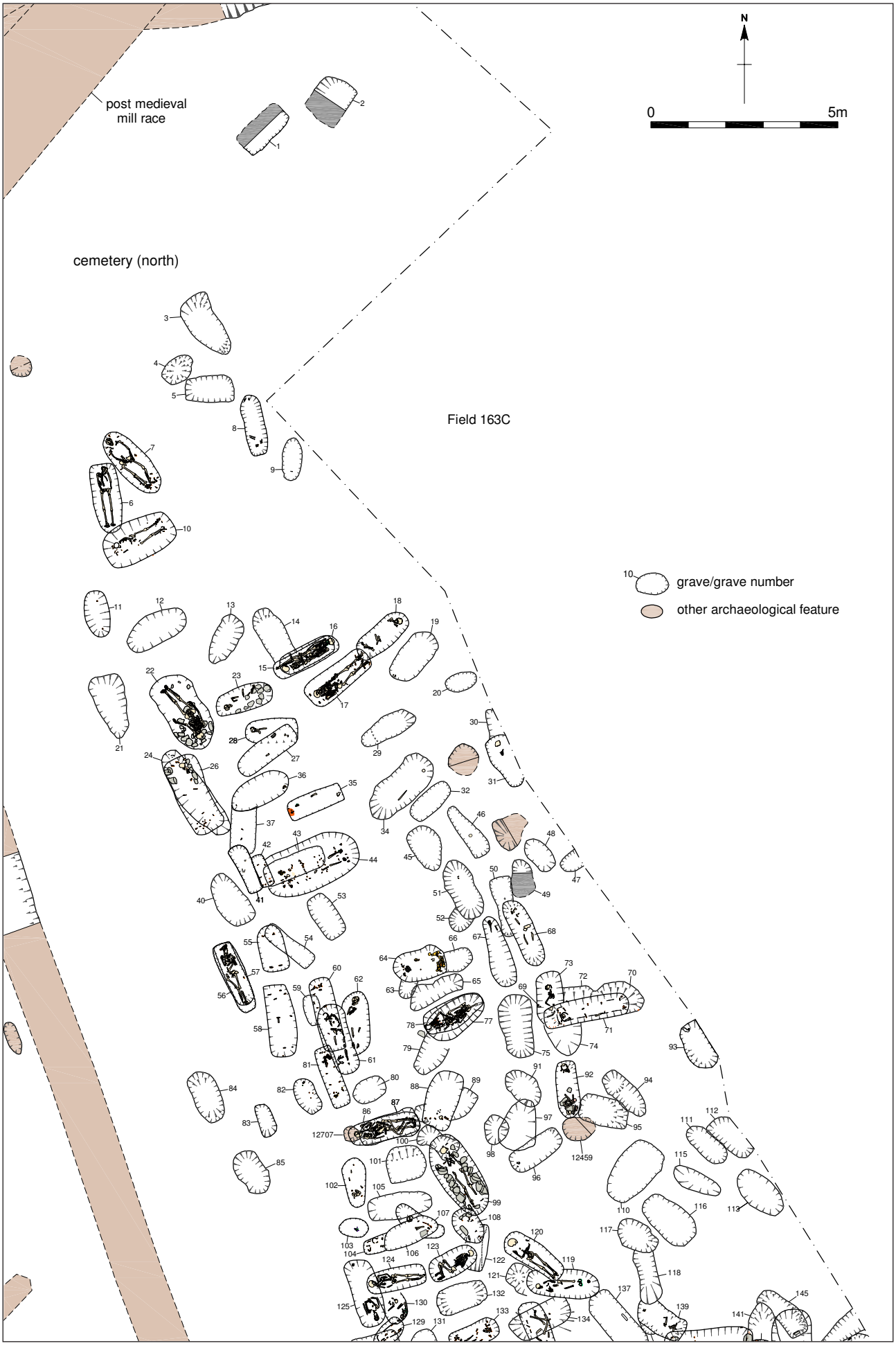


Figure 3.4: Bainesse Cemetery: northern half.

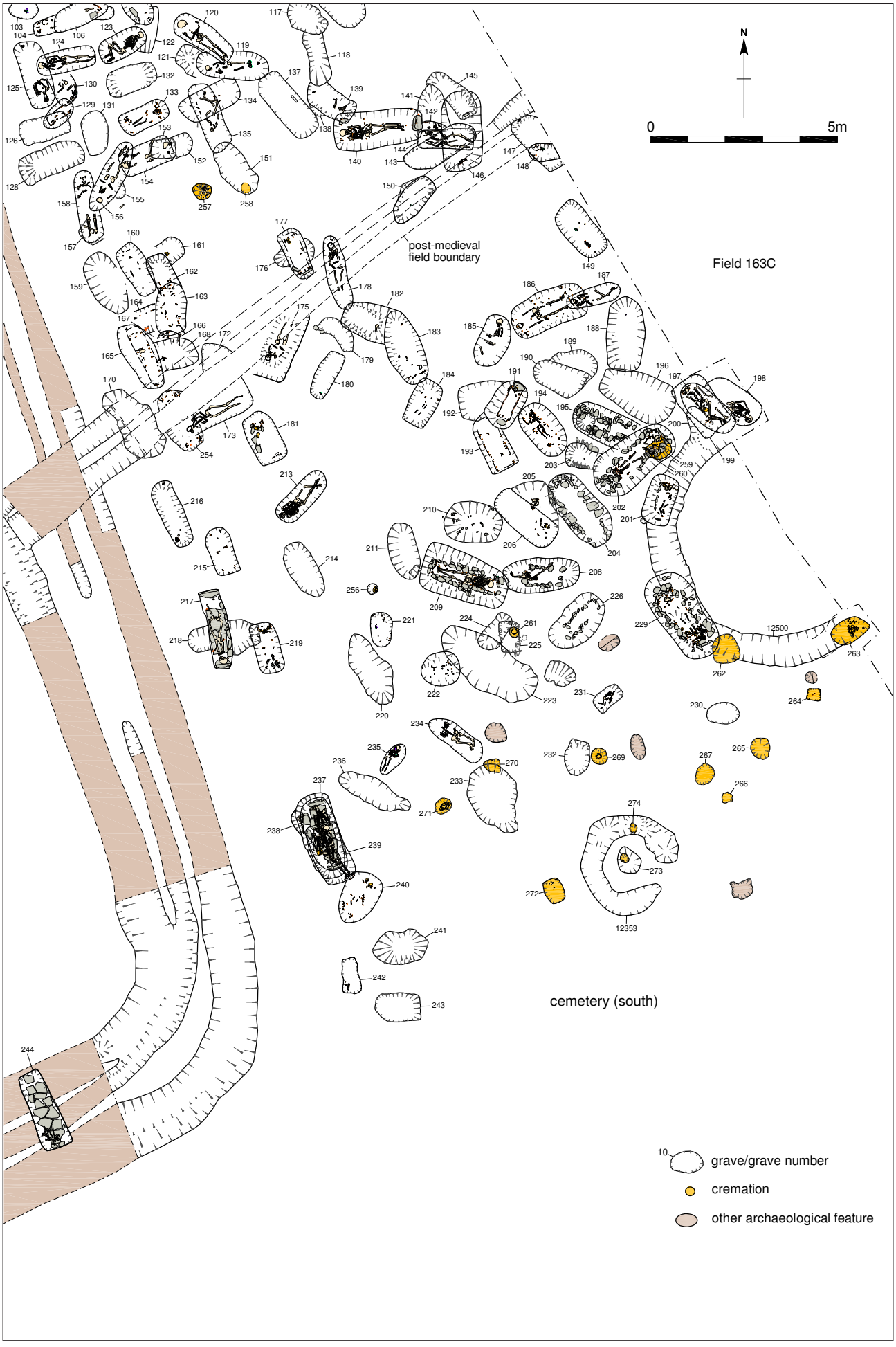


Figure 3.5: Bainesse Cemetery: southern half.

GRAVE CATALOGUE

GRAVE 1

Table 3.1: grave catalogue for Grave 1.

Grave cut 4950	
Orientation	NE-SW
Max. dimensions	L: 1.45m, W: 0.70m, D: 0.41m
Associated contexts	Grave fill 4951
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Flint debitage x1; magnetic matter
Environmental	-
Interpretative date	-

GRAVE 2

Table 3.2: grave catalogue for Grave 2.

Grave cut 4975	
Orientation	NE-SW
Max. dimensions	L: 1.28m, W: 1.00m, D: 0.70m
Associated contexts	Secondary grave fill 4976; primary grave fill 4977
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 4977: magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 3

Table 3.3: grave catalogue for Grave 3.

Grave cut 13288	
Orientation	SE-NW
Max. dimensions	L: 1.78m, W: 0.82m, D: 0.52m
Associated contexts	Grave fill 13289
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 4

Table 3.4: grave catalogue for Grave 4

Grave cut 13329	
Orientation	NE-SW
Max. dimensions	L: 0.92m, W: 0.64m, D: 0.52m
Associated contexts	Grave fill 13330
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Flint debitage x1
Environmental	-
Interpretative date	-

GRAVE 5

Table 3.5: grave catalogue for Grave 5.

Grave cut 13285	
Orientation	E-W
Max. dimensions	L: 1.30m, W: 0.70m, D: 0.20m
Associated contexts	Grave fill 13286
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	-

GRAVE 6

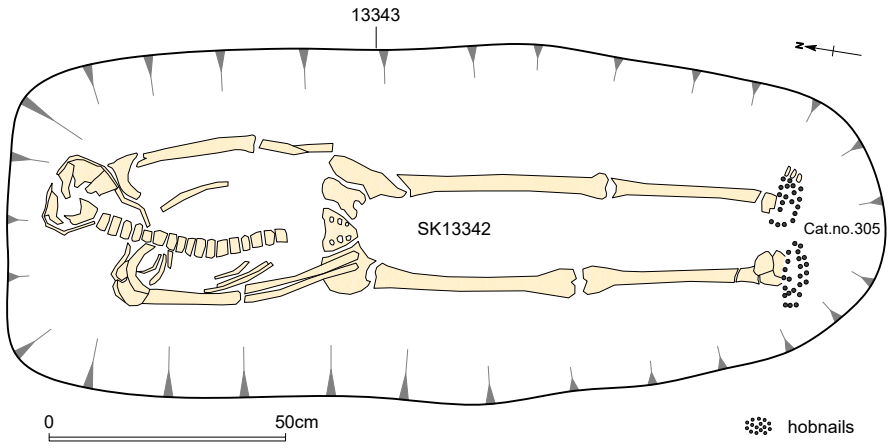


Figure 3.6: Bainesse Cemetery: plan of Grave 6.

The osteological analysis of Skeleton 13342 revealed nasal guttering, which was interpreted as a possible indicator of African descent. The individual was wearing nailed footwear containing a minimum of 97 hobnails at the time of interment.

Table 3.6: grave catalogue for Grave 6.

Grave cut 13343	
Orientation	N-S
Max. dimensions	L:1.82m, W: 0.78m, D: 0.42m
Associated contexts	Grave fill 13341
Skeleton 13342	
Orientation	Head to N
Posture	Supine; head facing left; legs extended, parallel
Arm position	Left extended, right slightly flexed with hand on pelvis
Sex	Probable male
Age	36+
Completeness	75%
Preservation	Poor
Dental pathology	DEH, calculus, caries, four abscesses
Pathology	Osteoarthritis in right knee, DDD; DJC in scapulae, femora, right tibia; cribra orbitalia in right orbit
Stature (mm)	-
C14 date	1: cal AD24–176 (91.9%), cal AD191–212 (3.5%) (1906±32BP, SUERC-67733/GU41080)
	2: 18–15 cal BC (0.2%), cal AD1–137 (95.2%) (1925±31BP, SUERC-76347/GU45965)
	Combined: *cal AD155–235*
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 305 nailed footwear represented by x97 (minimum) hobnails: RF11961 (left), RF11962 (right), RF11941 (unlocated)
Other finds	-
Environmental	-
Interpretative date	AD155–235

GRAVE 7

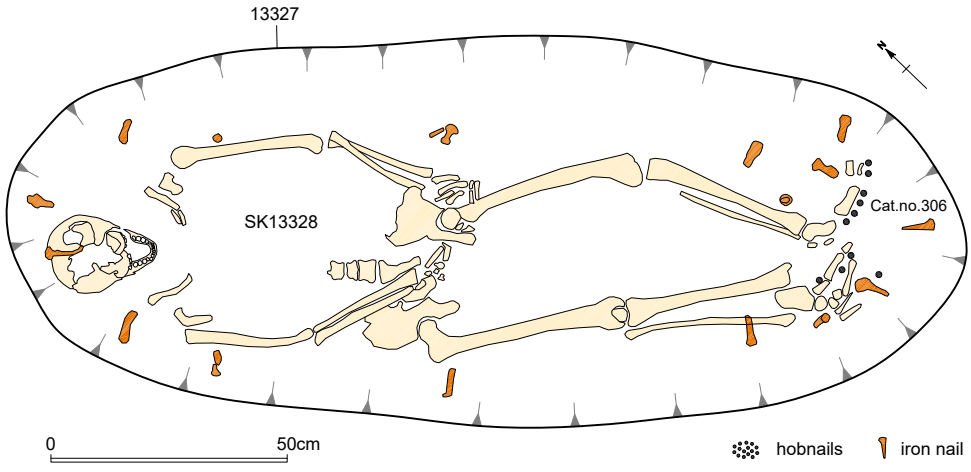


Figure 3.7: Bainesse Cemetery: plan of Grave 7

The osteological analysis of Skeleton 13328 revealed nasal guttering, which was interpreted as a possible indicator of African descent. The coffin, which measured approximately 1.80m by 0.52m (height unknown), contained at least 26 nails, which indicated the presence of planks measuring 25, 30 and 35mm in thickness. The individual was wearing nailed footwear containing a minimum of 133 hobnails at the time of interment.

Table 3.7: grave catalogue for Grave 7.

Grave cut 13327	
Orientation	SE-NW
Max. dimensions	L: 2.14m, W: 0.89m, D: 0.87m
Associated contexts	Grave fill 13326; coffin fill 13337
Skeleton 13328	
Orientation	Head to NW
Posture	Supine; head face up; legs extended, right extended, slightly flexed at knee, feet together
Arm position	Slightly flexed, right hand on pelvis and left on upper left femur
Sex	Male
Age	26–35
Completeness	80%
Preservation	Moderate
Dental pathology	DEH, calculus, some enamel chips
Pathology	Osteoarthritis in left proximal femur; hypervascularity on ectocranial surface of orbital ridges and rims
Stature (mm)	1640±39.4
C14 date	1: cal AD131–264 (72.1%), cal AD274–330 (23.3%) (1794±32BP, SUERC-67731/GU41078)
	2: cal AD86–109 (4.4%), cal AD118–244 (91.0%) (1837±28BP, SUERC-76346/GU45964)
	Combined: *cal AD180–200 (3%), cal AD205–345 (92%)*
Grave contents	
Coffin	Context 13337: RF11942–56, 11958–60, 11963–71 iron nails x26 (minimum)
Ceramic vessel	-
Grave goods	Context 13337: Cat. no. 306 nailed footwear represented by x133 (minimum) hobnails: RF11957 (left), RF11972 (right), RF11973 and RF13610 (unlocated)
Other finds	Context 13326: coal; magnetic matter; hammerscale
	Context 13337: magnetic matter; hammerscale
Environmental	Context 13337: charcoal: undet. hardwood
Interpretative date	AD180–345

GRAVE 8

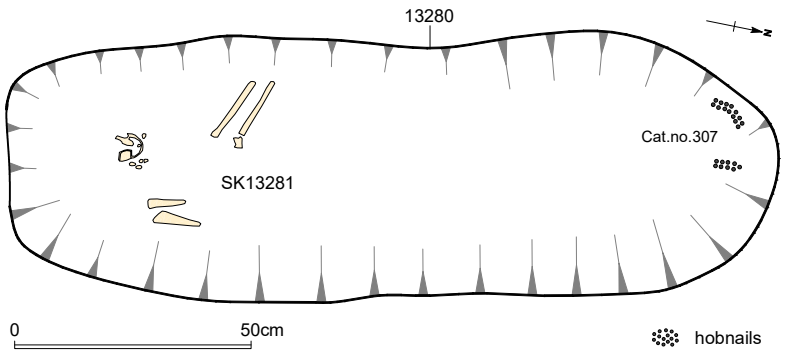


Figure 3.8: Bainesse Cemetery: plan of Grave 8.

The position of the minimum 45 hobnails suggested that the footwear was being worn by the individual at the time of internment.

Table 3.8: grave catalogue for Grave 8.

Grave cut 13280	
Orientation	N-S
Max. dimensions	L: 1.62m, W: 0.58m, D: 0.26m
Associated contexts	Grave fill 13282
Skeleton 13281	
Orientation	Head to S
Posture	Supine; head face up
Arm position	Left flexed over thorax; upper right extended, lower right not present
Sex	-
Age	18+
Completeness	5%
Preservation	Poor
Dental pathology	DEH, calculus
Pathology	-
Stature (mm)	-
C14 date	cal AD136–262 (67.1%), cal AD277–328 (28.3%) (1788±25BP, SUERC-74417/GU44484)
	cal AD215–390
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 307 nailed footwear represented by x45 (minimum) hobnails
Other finds	Pottery sherd x1 (Fabric OAB1); magnetic matter; hammerscale
Environmental	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD215–390

GRAVE 9

Table 3.9: grave catalogue for Grave 9.

Grave cut 13269	
Orientation	N-S
Max. dimensions	L: 1.12m, W: 0.51m, D: 0.14m
Associated contexts	Grave fill 13271
Skeleton 13270	
Orientation	Head to S? (enamel chips-impossible to tell if human)
Posture	Supine?
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	

GRAVE 10

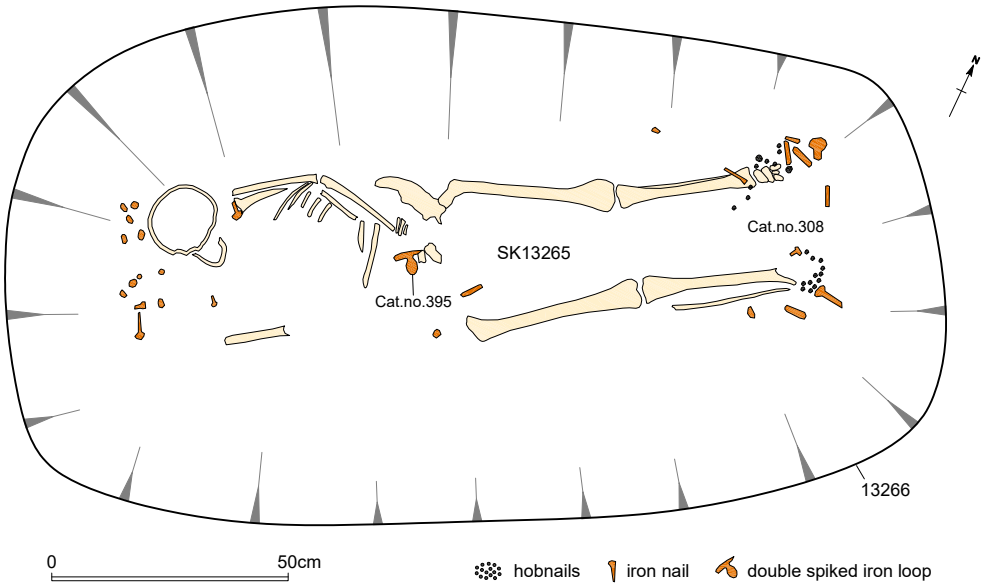


Figure 3.9: Bainesse Cemetery: plan of Grave 10.

The coffin measured approximately 1.50m by 0.40m by at least 0.17m high and contained a minimum of 20 nails. These indicated the presence of planks measuring 25–30mm in thickness. The individual was wearing nailed footwear containing a minimum of 96 hobnails, and a shoe plate was found associated with the left foot.

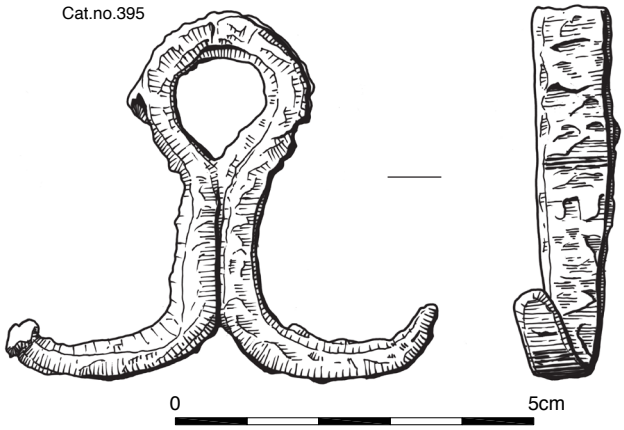


Figure 3.10 (right): Bainesse Cemetery: double-spiked iron loop from Grave 10.

GRAVE 11

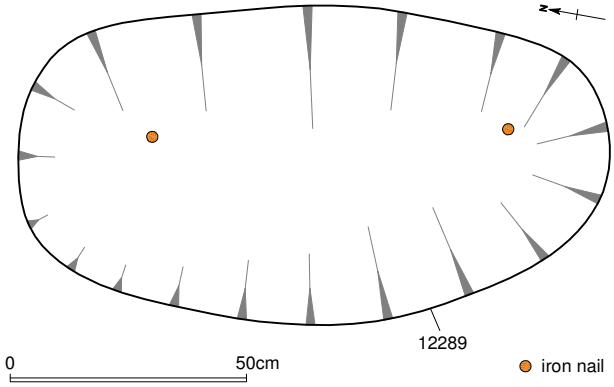


Figure 3.11: Bainesse Cemetery: plan of Grave 11.

The location of the two recorded nails suggested that they were possible coffin lid fixings.

Table 3.10: grave catalogue for Grave 10.

Grave cut 13266	
Orientation	ENE-WSW
Max. dimensions	L: 1.97m, W: 1.07m, D: 0.36m
Associated contexts	Grave fill 13264
Skeleton 13265	
Orientation	Head to WSW
Posture	Supine; head face up, cranium angled to W; legs extended, parallel
Arm position	Flexed, hands crossed on pelvis
Sex	-
Age	18+
Completeness	35%
Preservation	Poor
Dental pathology	Calculus, AMTL
Pathology	-
Stature (mm)	-
C14 date	cal AD78–228 (95.4%) (1864±29BP, SUERC-73006/GU43687)
	cal AD170–265 (84%), cal AD275–325 (11%)
Grave contents	
Coffin	RF11847, RF11849-53, RF11857, RF11859, RF11878, RF11882–3, RF11902–4, RF11919-29, RF11933, RF11936–40 iron nails x20 (minimum); Cat. no. 395 iron double-spiked loop
Ceramic vessel	-
Grave goods	Cat. no. 308 nailed footwear represented by hobnails: RF11918: x61 (minimum) hobnails with shoe plate (left foot), RF11917 x34 (minimum) hobnails (right foot)
Other finds	Pottery sherd x1 (Fabric OAB1); magnetic matter; hammerscale
Environmental	Charred plant remains: *Triticum* sp. (wheat); undet. cerealia
Interpretative date	AD170–325

Table 3.11: grave catalogue for Grave 11.

Grave cut 12289	
Orientation	N-S
Max. dimensions	L: 1.26m, W: 0.68m, D: 0.26m
Associated contexts	Primary grave fill 12290; secondary grave fill 12291
Skeleton: none	
Grave contents	
Coffin	Context 12290: RF580, RF581 iron nails x2 (additional two nails found in environmental sample) that may have been from a poorly preserved coffin
Ceramic vessel	-
Grave goods	-
Other finds	Context 12290: samian sherd x1 (no form identifiable); cremated human bone; unidentified burnt bone; undiagnostic ceramic building material fragments x2; chert core x1; flint/chert debitage fragments x3; coal; hammerscale
	Context 12291: hammerscale
Environmental	Context 12290: charcoal: *Quercus* (oak); *Cornus* (dogwood); *Fraxinus* (ash);
	Context 12290: charred plant remains: Poaceae undet. >5 mm; Fabaceae undet.; tuber
Interpretative date	AD120–200

GRAVE 12

Table 3.12: grave catalogue for Grave 12.

Grave cut 12283	
Orientation	ENE-WSW
Max. dimensions	L: 1.73m, W: 0.82m, D: 0.39m
Associated contexts	Grave fill 12282
Skeleton 12292	
Orientation	Head to ENE
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%-dentition only
Preservation	Extremely poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Iron slag; cremated human bone; unidentified burnt bone; magnetic matter; hammerscale
Environmental	Charcoal: *Quercus* (oak); *Rosa* (rose); *Calluna vulgaris* (heather)
Interpretative date	-

GRAVE 13

Table 3.13: grave catalogue for Grave 13.

Grave cut 13278	
Orientation	NNE-SSW
Max. dimensions	L: 1.40m, W: 0.65m, D: 0.32m
Associated contexts	Grave fill 13279
Skeleton: none	
Grave contents: none	

GRAVE 14

Table 3.14: grave catalogue for Grave 14.

Grave cut 13276	
Orientation	SSE-NNW
Max. dimensions	L: >1.40m, W: 0.72m, D: 0.89m
Associated contexts	Grave fill 13277
Skeleton: none	
Grave contents: none	
Interpretative date	AD80–340

GRAVE 15

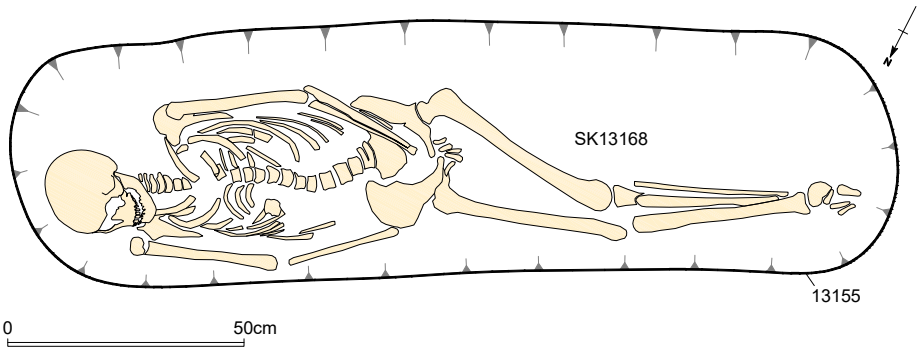


Figure 3.12: Bainesse Cemetery: plan of Grave 15.

Grave **15** largely occupied the same footprint as Grave **16**, which was shown to be stratigraphically earlier.

Table 3.15: grave catalogue for Grave 15.

Grave cut 13155	
Orientation	ENE-WSW
Max. dimensions	L: 1.80m, W: 0.51m, D: 0.3m
Associated contexts	Grave fill 13156
Skeleton 13168	
Orientation	Head to ENE
Posture	Supine; head tilted right; legs semi-flexed right, right ankle over left
Arm position	Slightly flexed, left hand on pelvis, right hand under pelvis
Sex	Male
Age	18–25
Completeness	95%
Preservation	Moderate
Dental pathology	DEH, calculus
Pathology	Lamellar bone on distal right radius, visceral surface of six ribs, both tibiae and both distal fibulae (possible hypertrophic pulmonary osteoarthropathy), cribra orbitalia in left orbit, cranial border shift of lumbar-thoracic border with lumbarisation of T12, Schmorl's nodes on T9–T11; hypervascularity on ectocranial surface.
Stature (mm)	-
C14 date	cal AD238–388 (95.4%) (1734±32BP, SUERC-67722/GU41072)
	cal AD255–395
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x2 (Fabric GRB); magnetic matter; hammerscale
Environmental	Charred plant remains: Hordeum (hulled barley); undet. 2–5mm
Interpretative date	AD255–395

GRAVE 16

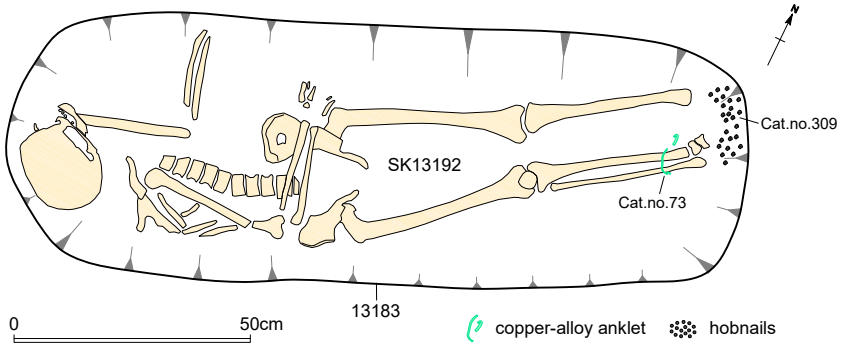


Figure 3.13: Bainesse Cemetery: plan of Grave 16.

Grave **16** was truncated by Grave **15**, which largely occupied the same footprint. At the foot end of the grave, a minimum of 50 hobnails were recorded. They were associated with the bones of the feet and clearly represented nailed footwear that was worn at the time of burial.

Table 3.16: grave catalogue for Grave 16.

Grave cut 13183	
Orientation	NE-SW
Max. dimensions	L: 1.75m, W: 0.55m, D: 0.70m
Associated contexts	Grave fill 13184
Skeleton 13192	
Orientation	Head to SW
Posture	Supine; head upright facing NW; torso tilted to left side; legs extended, parallel
Arm position	Lower left flexed 90° over pelvis; lower right flexed 90° to NW side of grave
Sex	Female
Age	46+
Completeness	90%
Preservation	Moderate
Dental pathology	DEH, calculus, caries, periodontal disease, impacted tooth
Pathology	Bilateral coxa vara, osteoarthritis in the left proximal humerus, both radii, right proximal and distal femur, right patella, right proximal and distal tibia, both tali and cuboids, three ribs; DJC in both radii; OA in spine; bilateral cribra orbitalia; hypervascularity on ectocranial surface of skull
Stature (mm)	1615
C14 date	cal AD132–265 (67.9%), cal AD272–333 (27.5%) (1790±32BP, SUERC-67724/GU41074)
	cal AD180–200 (2%), cal AD205–360 (93%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 309 nailed footwear represented by x50 (minimum) hobnails; Cat. no. 73 copper-alloy anklet on right leg
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	Charred plant remains: undet. cerealia
Interpretative date	AD180–360

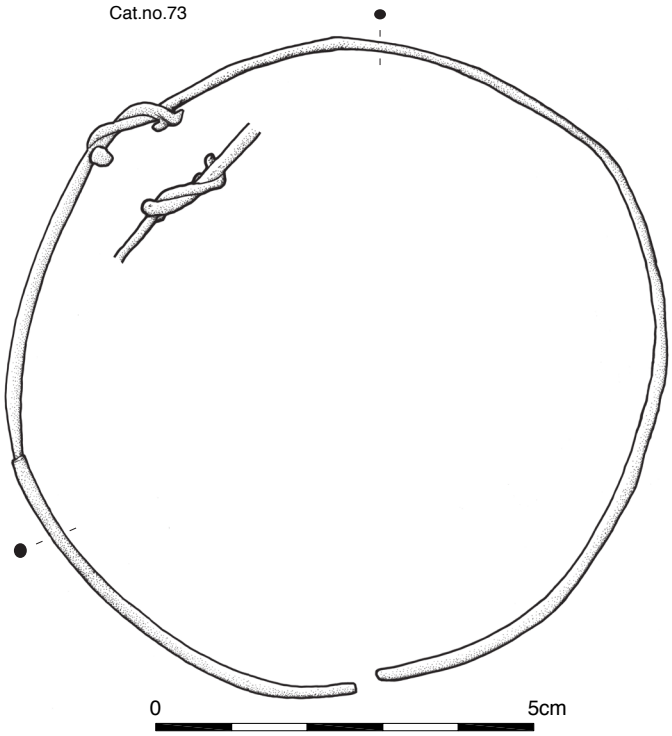


Figure 3.14: Bainesse Cemetery: copper-alloy anklet from Grave 16.

GRAVE 17

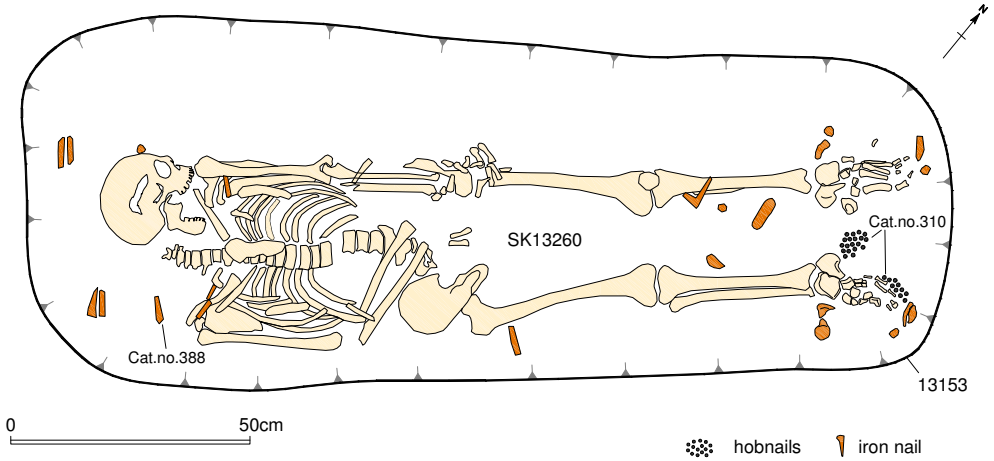


Figure 3.15: Bainesse Cemetery: plan of Grave 17.

The coffin within this grave measured approximately 1.85m by 0.45m by at least 0.24m high and contained at least 28 nails and two staples. These suggested the presence of 20, 25 and 30mm thick planks in its construction. The individual was wearing nailed footwear containing a minimum of 193 hobnails. The hobnails associated with the left foot were retrieved from a sample of the fill and are therefore not illustrated on the plan.

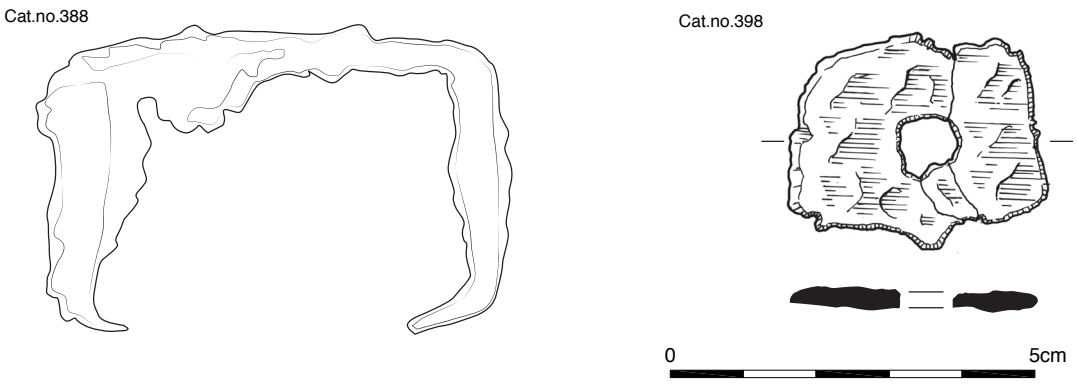


Figure 3.16: Bainesse Cemetery: iron coffin staple and possible iron coffin fitting from Grave 17.

Table 3.17: grave catalogue for Grave 17.

Grave cut 13153	
Orientation	NE-SW
Max. dimensions	L: 2.0m, W: 0.8m, D: 0.75m
Associated contexts	Grave fill 13154
Skeleton 13260	
Orientation	Head to SW
Posture	Supine; head facing left; legs extended, parallel
Arm position	Right flexed with hand on pelvis, left extended with hand on pelvis/upper femur
Sex	Male
Age	26–35
Completeness	90%
Preservation	Poor
Dental pathology	DEH, calculus, caries
Pathology	Dense bone formation on left endocranial occipital surface; complete fusion of sternum to manubrium, lytic lesion on rim of left acetabulum, spondylolysis of L5, cranial shift of lumbar-thoracic border with lumbarisation of T12; Schmorl's nodes; lamellar bone on right tibia; slight torsion of right femur; hypervascularity on ectocranial surface of skull, S1 and S2 bifid; bilateral sinusitis and cribra orbitalia; possible healed fracture in distal right foot phalanx; DJC in spine, clavicles, distal humeri, radii, femora, tibiae
Stature (mm)	1613.7±32.7
C14 date	cal AD84–243 (95.4%) (1840±32BP, SUERC-67725/GU41075)
	cal AD155–305
Grave contents	
Coffin	RF11844, RF11854–6, RF11860–9, RF11871–4, RF11877, RF11879–81, RF11887 iron nails x28 (minimum); Cat. no. 388–389 iron staple x2, Cat. no. 398 pierced iron strip that may also be a coffin fitting
Ceramic vessel	-
Grave goods	Cat. no. 310 nailed footwear represented by x193 (minimum) hobnails: RF11875 (right sole), RF11876 (right heel), RF13606 (from sample around left foot)
Other finds	Samian sherd x1 (DR18/31); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD155–305

GRAVE 18

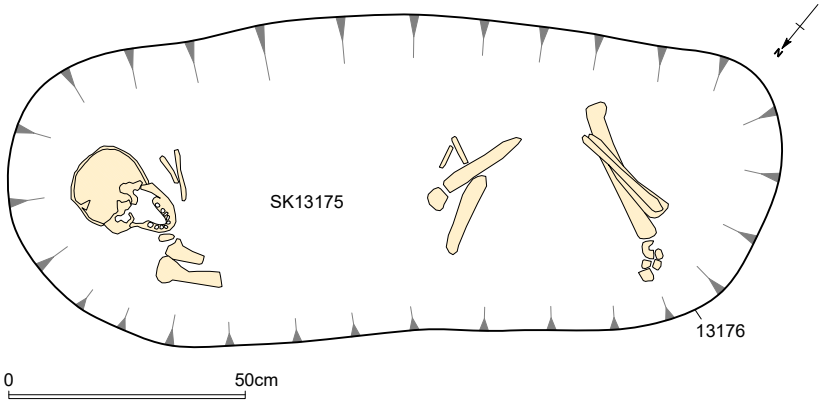


Figure 3.17: Bainesse Cemetery: plan of Grave 18.

Table 3.18: grave catalogue for Grave 18.

Grave cut 13176	
Orientation	NE-SW
Max. dimensions	L: 1.60m, W: 0.66m, D: 0.44m
Associated contexts	Grave fill 13174
Skeleton 13175	
Orientation	Head to NE
Posture	Supine; head face up; legs semi-flexed to the left
Arm position	-
Sex	-
Age	18+
Completeness	20%
Preservation	Moderate
Dental pathology	Calculus, DEH, caries, periodontal disease
Pathology	Osteochondritis dissecans on right distal tibia, ossification of interosseous membrane of right distal fibula, DJC left talus; cribra orbitalia in left orbit
Stature (mm)	-
C14 date	cal AD86–234 (95.4%) (1851±26BP, SUERC-72986/GU43670)
	cal AD175–335
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Flint debitage x1; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
Interpretative date	AD155–330

GRAVE 19

Table 3.19: grave catalogue for Grave 19.

Grave cut 12524	
Orientation	NE-SW
Max. dimensions	L: 1.56m, W: 0.69m, D: 0.45m
Associated contexts	Grave fill 12526
Skeleton 13175	
Orientation	Head to SW
Posture	-
Arm position	-
Sex	-
Age	9–11
Completeness	<5%
Preservation	Poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charred plant remains: Poaceae undet. 2–5mm
Interpretative date	-

GRAVE 20

Table 3.20: grave catalogue for Grave 20.

Grave cut 13022	
Orientation	ENE-WSW
Max. dimensions	L: 0.84m, W: 0.48m, D: 0.29m
Associated contexts	Grave fill 13021
Skeleton: none	
Grave contents: none	

GRAVE 21

Table 3.21: grave catalogue for Grave 21.

Grave cut 13333	
Orientation	SSE-NNW
Max. dimensions	L: 1.80m W: 0.92m D: 0.42m
Associated contexts	Grave fill 13334
Skeleton: none	
Grave contents: none	

GRAVE 22

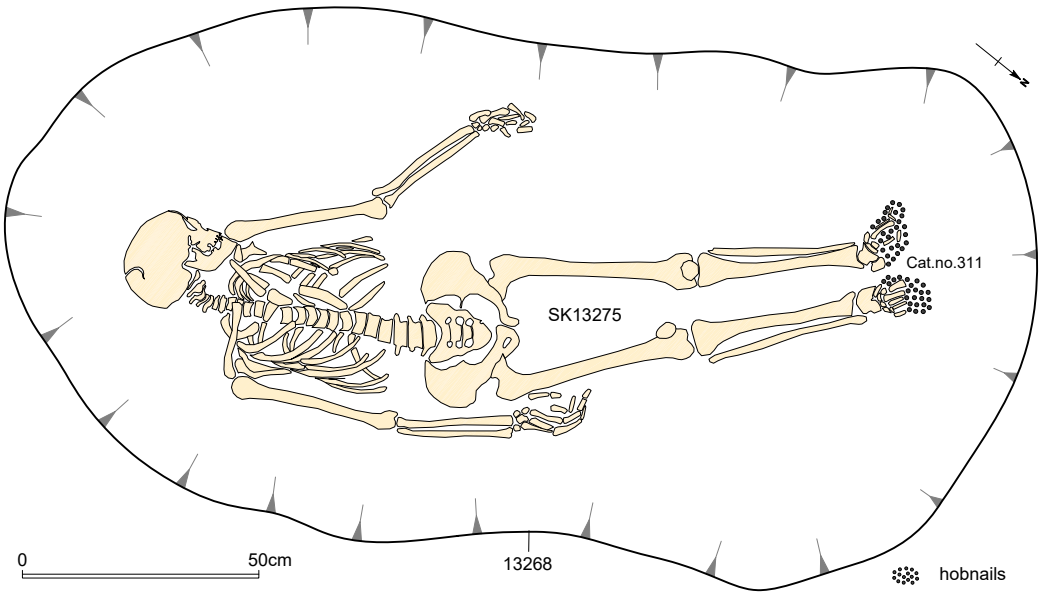


Figure 3.18: Bainesse Cemetery: plan of Grave 22.

The fact that the feet of Skeleton 13275 were pressed against the end of the grave had prevented the bones from collapsing. This resulted in the pattern of hobnails almost perfectly preserving the shape of the footwear, which contained a minimum of 112 hobnails on the left foot and 139 on the right.

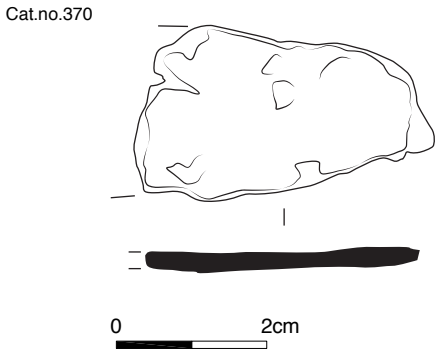


Figure 3.19: Bainesse Cemetery: redeposited iron strip from Grave 22.

Table 3.22: grave catalogue for Grave 22.

Grave cut 13268	
Orientation	SE-NW
Max. dimensions	L: 2.20m, W: 1.12m, D: 0.60m
Associated contexts	Grave fill 13267
Skeleton 13275	
Orientation	Head to SE
Posture	Supine; head facing left; legs extended, parallel
Arm position	Right extended, left flexed away from torso
Sex	Male
Age	26–35
Completeness	90%
Preservation	Good
Dental pathology	Calculus, DEH, caries, periodontal disease, abscess, LI2 is not present, LC in its place
Pathology	Spondylolysis of L5, cleft neural arch in C1, Schmorl's nodes on T9 and T11, hypervascularity on ectocranial surface of skull, bilateral cribra orbitalia
Stature (mm)	1659±32.7
C14 date	cal AD31–37 (1.1%), cal AD51–217 (94.3%) (1896±32BP, SUERC-67727/GU41077)
	cal AD155–330
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 311 nailed footwear represented by x251 hobnails (minimum): RF11884 (left), RF11885 (right)
Other finds	Disarticulated human bone; Cat. no. 370 possible iron knife blade; magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 23

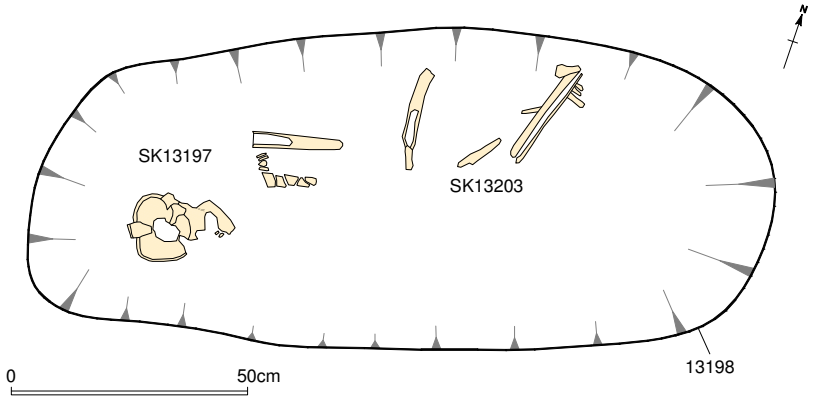


Figure 3.20: Bainesse Cemetery: plan of Grave 23.

At the time of excavation, it was considered that Skeleton 13197 and 13203 possibly represented a single individual, but the radiocarbon assays demonstrated that this was not the case. Consequently, the possibility that Skeleton 13203 was interred in a later grave that was unrecognised at the time of excavation must be considered.

Table 3.23: grave catalogue for Grave 23.

Grave cut 13198	
Orientation	ENE-WSW
Max. dimensions	L: 1.68m, W: 0.68m, D: 0.22m
Associated contexts	Grave fill 13196
Skeleton 13197 (23a)	
Orientation	Head to WSW
Posture	Supine?; head facing right
Arm position	Upper left, extended, parallel to grave cut
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	Calculus, caries
Pathology	-
Stature (mm)	-
C14 date	cal AD79–222 (95.4%) (1866±25BP, SUERC-72999/GU43683)
	cal AD160–240
Skeleton 13203 (23b)	
Orientation	N-S
Posture	Articulated tibia/fibula and parallel articulated tibia/calcaneus lying across the grave
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD264–275 (1.7%), cal AD330–427 (93.7%) (1662±26BP, SUERC-73010/GU43691)
	cal AD260–280 (7%), cal AD325–410 (88%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: *Betula* (birch)
Interpretative date	-

GRAVE 24

Table 3.24: grave catalogue for Grave 24.

Grave cut 13149	
Orientation	SE-NW
Max. dimensions	L: 2.70m, W: 0.85m, D: 0.13m
Associated contexts	Grave fill 12285/13148
Skeleton 13147	
Orientation	Head to NW
Posture	-
Arm position	-
Sex	-
Age	18-25
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charred plant remains: undet. cerealia; tuber
Interpretative date	AD240–400

GRAVE 26

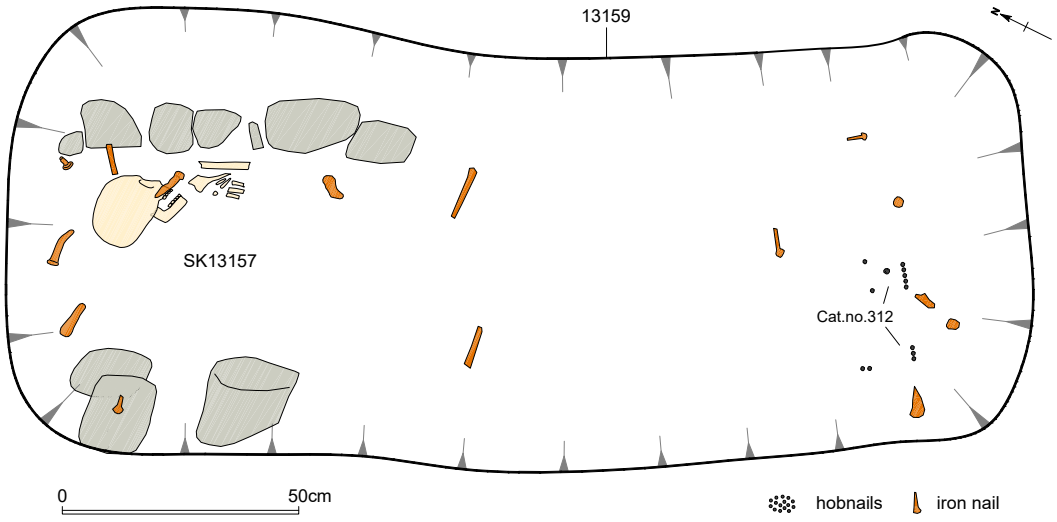


Figure 3.21: Bainesse Cemetery: plan of Grave 26.

The coffin measured approximately 1.85m by 0.55m by at least 0.23m high and contained at least 10 nails. The position of the hobnails within the grave suggested that footwear was being worn at the time of interment.

Table 3.25: grave catalogue for Grave 26.

Grave cut 13159	
Orientation	SSE-NNW
Max. dimensions	L: 2.00m, W: 1.00mm, D: 0.30m
Associated contexts	Grave fill 13158
Skeleton 13157	
Orientation	Head to NNW
Posture	Supine; head tilted left
Arm position	-
Sex	Probable male
Age	18+
Completeness	5%
Preservation	Poor
Dental pathology	Calculus, caries
Pathology	-
Stature (mm)	-
C14 date	cal AD221–358 (93.3%), cal AD365–380 (2.1%) (1756±26BP, SUERC-72974/GU43655)
	cal AD240–390
Grave contents	
Coffin	RF11728–34, 11736–7, 11740, 11761–3, 11788, 11791–2 iron nails x10 (minimum)
Ceramic vessel	-
Grave goods	Cat. no. 312 nailed footwear represented by x23 (minimum) hobnails: RF11764-5 (left), RF11787 (right), others from environmental sampling
Other finds	Magnetic matter; hammerscale; flint debitage x1
Environmental	Charred plant remains: Hordeum (hulled barley); undet. cerealia
Interpretative date	-

GRAVE 27

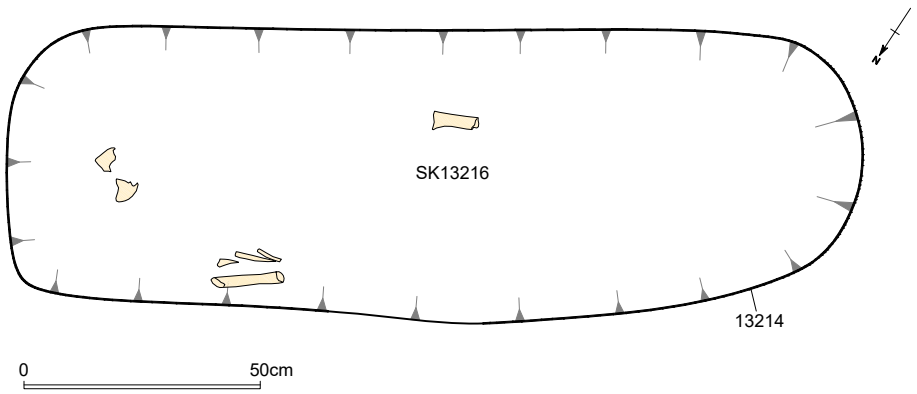


Figure 3.22: Bainesse Cemetery: plan of Grave 27.

Table 3.26: grave catalogue for Grave 27.

Grave cut 13214	
Orientation	NE-SW
Max. dimensions	L: 1.80m, W: 0.61m, D: 0.24m
Associated contexts	Grave fill 13215
Skeleton 13216	
Orientation	Head to NE
Posture	Supine?
Arm position	Upper right parallel to grave cut
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD244–381 (95.4%) (1734±26BP, SUERC-72975/GU43657)
	cal AD255–410
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD240–390

GRAVE 28

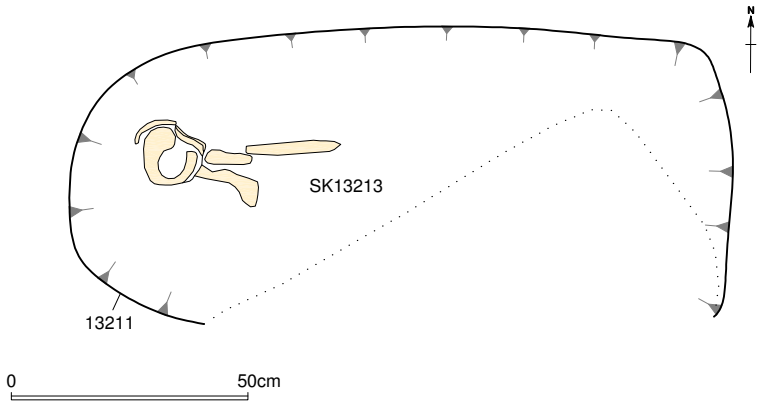


Figure 3.23: Bainesse Cemetery: plan of Grave 28.

Grave **28** was truncated by Grave **27**, which had removed the lower part of Skeleton 13213.

Table 3.27: grave catalogue for Grave 28.

Grave cut 13211	
Orientation	E-W
Max. dimensions	L: 1.40m, W: 0.62m, D: 0.23m
Associated contexts	Grave fill 13212
Skeleton 13213	
Orientation	Head to W
Posture	Supine?
Arm position	-
Sex	-
Age	18+
Completeness	5%
Preservation	Poor
Dental pathology	-
Pathology	Cribra orbitalia
Stature (mm)	-
C14 date	cal AD133–264 (68.9%), cal AD275–330 (26.5%) (1790±29BP, SUERC-72979/GU43665)
	cal AD170–330
Grave contents: none	
Interpretative date	AD255–410

GRAVE 29

Table 3.28: grave catalogue for Grave 29.

Grave cut 12795	
Orientation	ENE-WSW
Max. dimensions	L: 1.58m, W: 0.62m, D: 0.68m
Associated contexts	Grave fill 12796
Skeleton: none	
Grave contents: none	

GRAVE 30

Table 3.29: grave catalogue for Grave 30.

Grave cut 13038	
Orientation	SSE-NNW
Max. dimensions	L: >0.80m, W: >0.40m, D: 0.33m
Associated contexts	Grave fill 13037
Skeleton: none	
Grave contents: none	

GRAVE 31

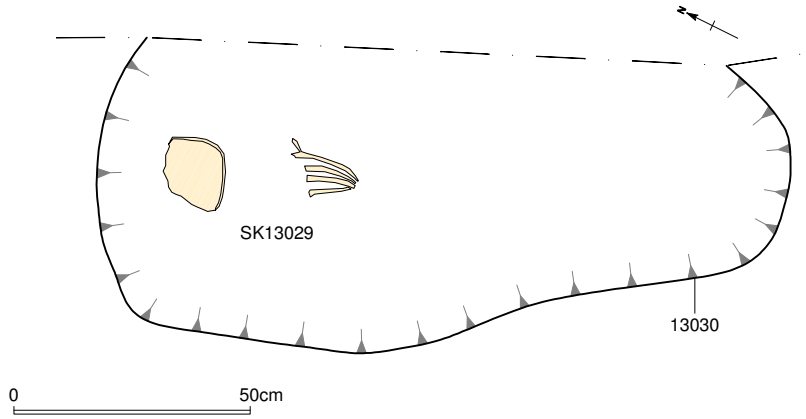


Figure 3.24: Bainesse Cemetery: plan of Grave 31.

Table 3.30: grave catalogue for Grave 31.

Grave cut 13030	
Orientation	SSE-NNW
Max. dimensions	L: 1.44m, W: 0.62m, D: 0.40m
Associated contexts	Grave fill 13028
Skeleton 13029	
Orientation	Head to NNW
Posture	Supine?
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	

GRAVE 32

Table 3.31: grave catalogue for Grave 32.

Grave cut 13012	
Orientation	NE-SW
Max. dimensions	L: 1.28m, W: 0.56m, D: 0.46m
Associated contexts	Grave fill 13011
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 34

Table 3.32: grave catalogue for Grave 34.

Grave cut 12844	
Orientation	NE-SW
Max. dimensions	L: 2.13m, W: 0.92m, D: 0.54m
Associated contexts	Grave fill 12522/12846
Skeleton 12845	
Orientation	Head to NE
Posture	Supine?; left femur extended
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	-

GRAVE 35

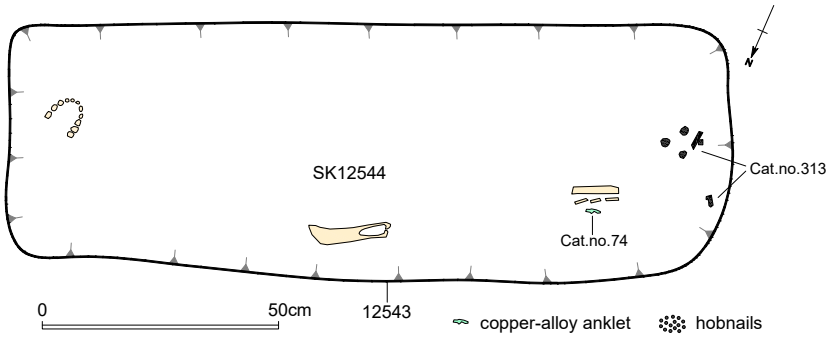


Figure 3.25: Bainesse Cemetery: plan of Grave 35.

The position of the hobnails recovered from this grave suggested that the footwear was being worn at the point of interment.

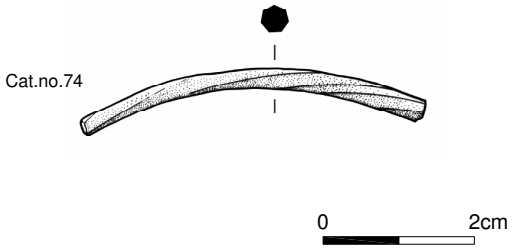


Figure 3.26: Bainesse Cemetery: copper-alloy anklet from Grave 35.

Table 3.33: grave catalogue for Grave 35.

Grave cut 12543	
Orientation	ENE-WSW
Max. dimensions	L: 1.52m, W: 0.54m, D: 0.28m
Associated contexts	Grave fill 12545
Skeleton 12544	
Orientation	Head to ENE
Posture	Supine; right leg extended
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 313 nailed footwear represented by x21 (minimum) hobnails: RF709–12, RF716; Cat. no. 74 copper-alloy anklet fragments around right leg (late 3rd–4th century AD)
Other finds	Flint debitage x1
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD275–400

GRAVE 36

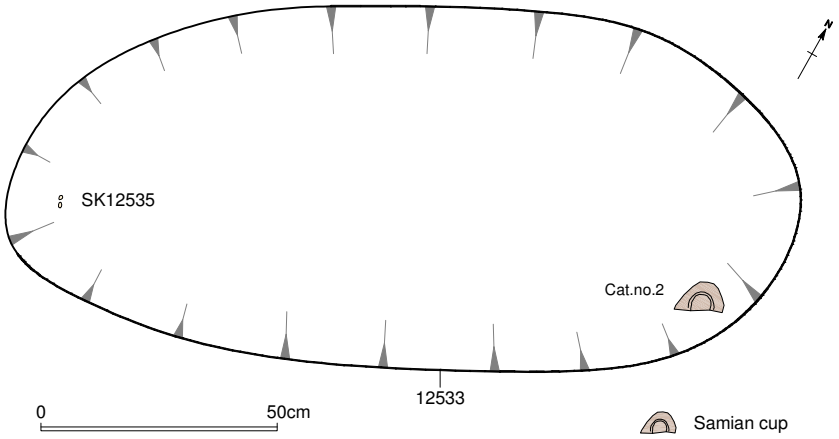


Figure 3.27: Bainesse Cemetery: plan of Grave 36.

The samian cup recovered from this grave was located towards the foot end, 0.2m above the base, suggesting it had not been placed with the deceased prior to back-filling.

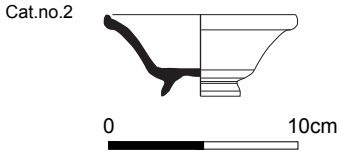


Figure 3.28: Bainesse Cemetery: placed samian cup from Grave 36.

Table 3.34: grave catalogue for Grave 36.

Grave cut 12533	
Orientation	ENE-WSW
Max. dimensions	L: 1.68m, W: 0.72m, D: 0.30m
Associated contexts	Grave fill 12534
Skeleton 12535	
Orientation	Head to WSW
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%–dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	Cat. no. 2 samian cup (AD120–200)
Grave goods	-
Other finds	Wood; coal; flint flake x1; magnetic matter; hammerscale
Environmental	Charcoal: root undet.
Interpretative date	AD120–250

GRAVE 37

Table 3.35: grave catalogue for Grave 37.

Grave cut 12759	
Orientation	N-S
Max. dimensions	L: >1.25m, W: 0.68m, D: 0.21m
Associated contexts	Secondary grave fill 12757; primary grave fill 12758
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF10509–10 iron nails x2; pottery sherd x1 (Fabric MOAB); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD100–400

GRAVE 40

Table 3.36: grave catalogue for Grave 40.

Grave cut 12809	
Orientation	SSE-NNW
Max. dimensions	L: 1.50m, W: 0.84m, D: 0.64m
Associated contexts	Grave fill 12810
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Clinker; hobnails x3
Environmental	-
Interpretative date	-

GRAVE 41

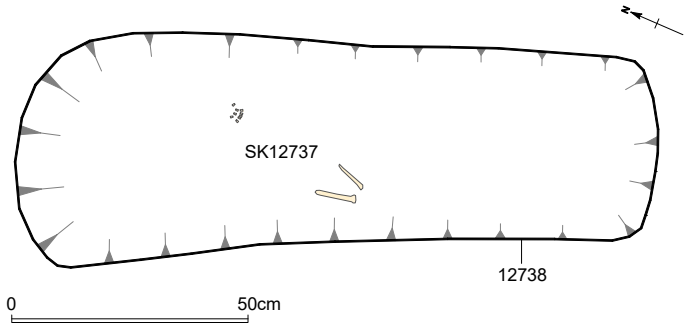


Figure 3.29: Bainesse Cemetery: plan of Grave 41.

Table 3.37: grave catalogue for Grave 41.

Grave cut 12738	
Orientation	SSE-NNW
Max. dimensions	L: 1.35m, W: 0.45m, D: 0.33m
Associated contexts	Grave fill 12736
Skeleton 12737	
Orientation	Head to NNW
Posture	Supine?
Arm position	Right alongside torso?
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD243–385 (95.4%) (1731±29BP, SUERC-72969/GU43641)
	cal AD260–390
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Clinker; magnetic matter; hammerscale
Environmental	Charcoal: *Corylus* (hazel)
Interpretative date	AD260–390

GRAVE 42

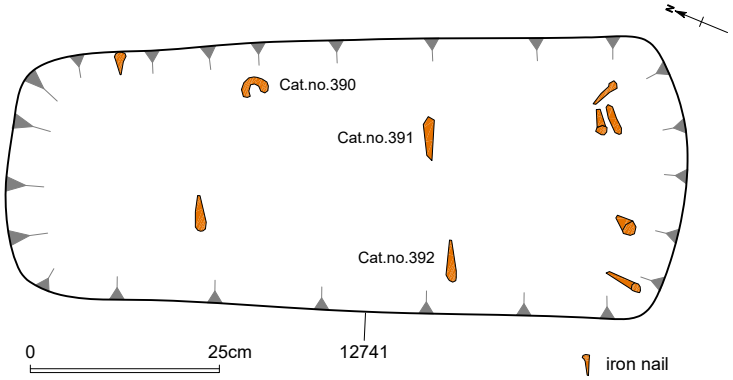


Figure 3.30: Bainesse Cemetery: plan of Grave 42.

The coffin in this grave measured approximately 0.67m by 0.25m by at least 0.26m high and contained at least four nails and one staple.

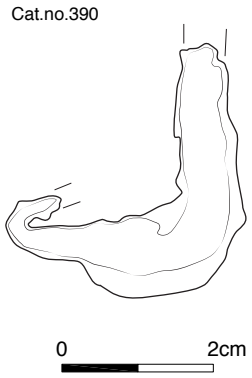


Figure 3.31 (right): Bainesse Cemetery: iron coffin staple from Grave 42

Table 3.38: grave catalogue for Grave 42

Grave cut 12741	
Orientation	SSE-NNW
Max. dimensions	L: 0.90m, W: 0.38m, D: 0.25m
Associated contexts	Grave fill 12739; coffin fill 12740
Skeleton: none	
Grave contents	
Coffin	Context 12740: RF10478, RF10481–4, RF10486, RF10492 iron nails x4 (minimum); Cat. no. 390–392 at least x1 iron staple
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	AD250–370

GRAVE 43

Table 3.39: grave catalogue for Grave 43.

Grave cut 12566	
Orientation	ENE-WSW
Max. dimensions	L: 1.68m, W: 0.60m, D: 0.24m
Associated contexts	Grave fill 12568
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF760 iron nail shank x1
Environmental	-
Interpretative date	AD250–400

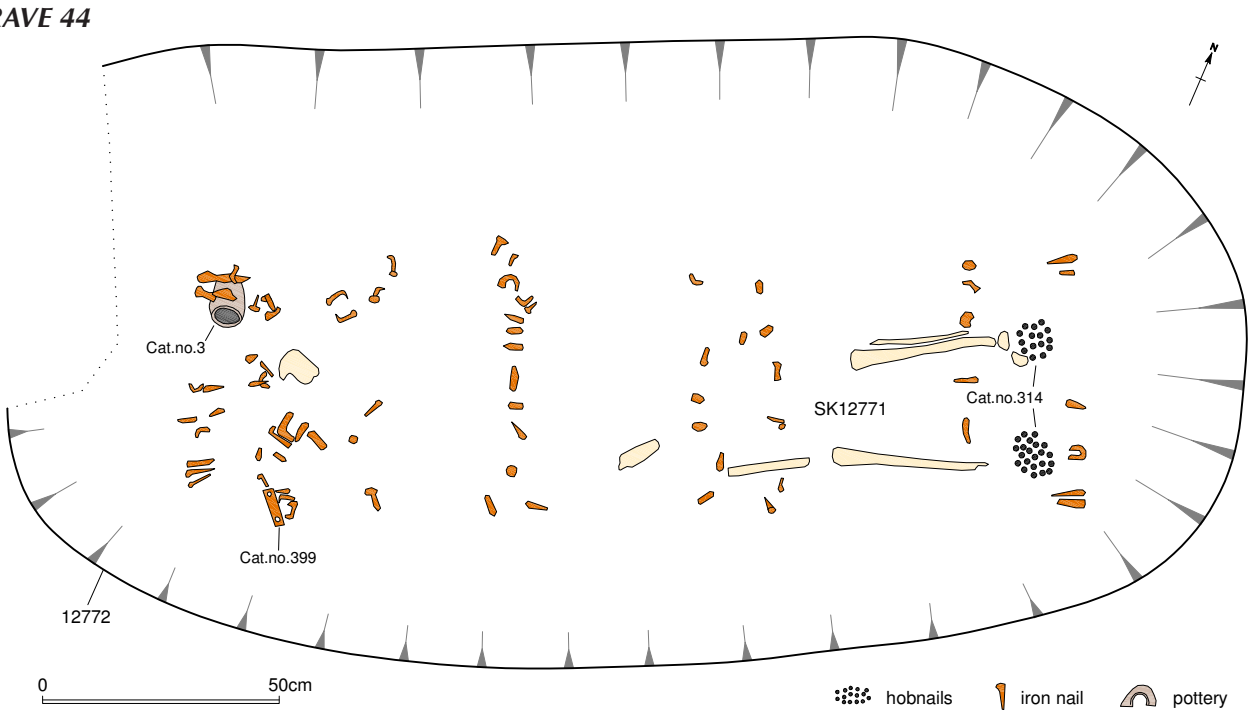


Figure 3.32: Bainesse Cemetery: plan of Grave 44.

The coffin in this grave measured approximately 1.90m by 0.55m by at least 0.22m high and contained at least 57 nails and a pierced iron strip. The skeleton was wearing nailed footwear containing a minimum of 24 hobnails. The ceramic vessel was located in the corner of the coffin adjacent to the left side of the skull.

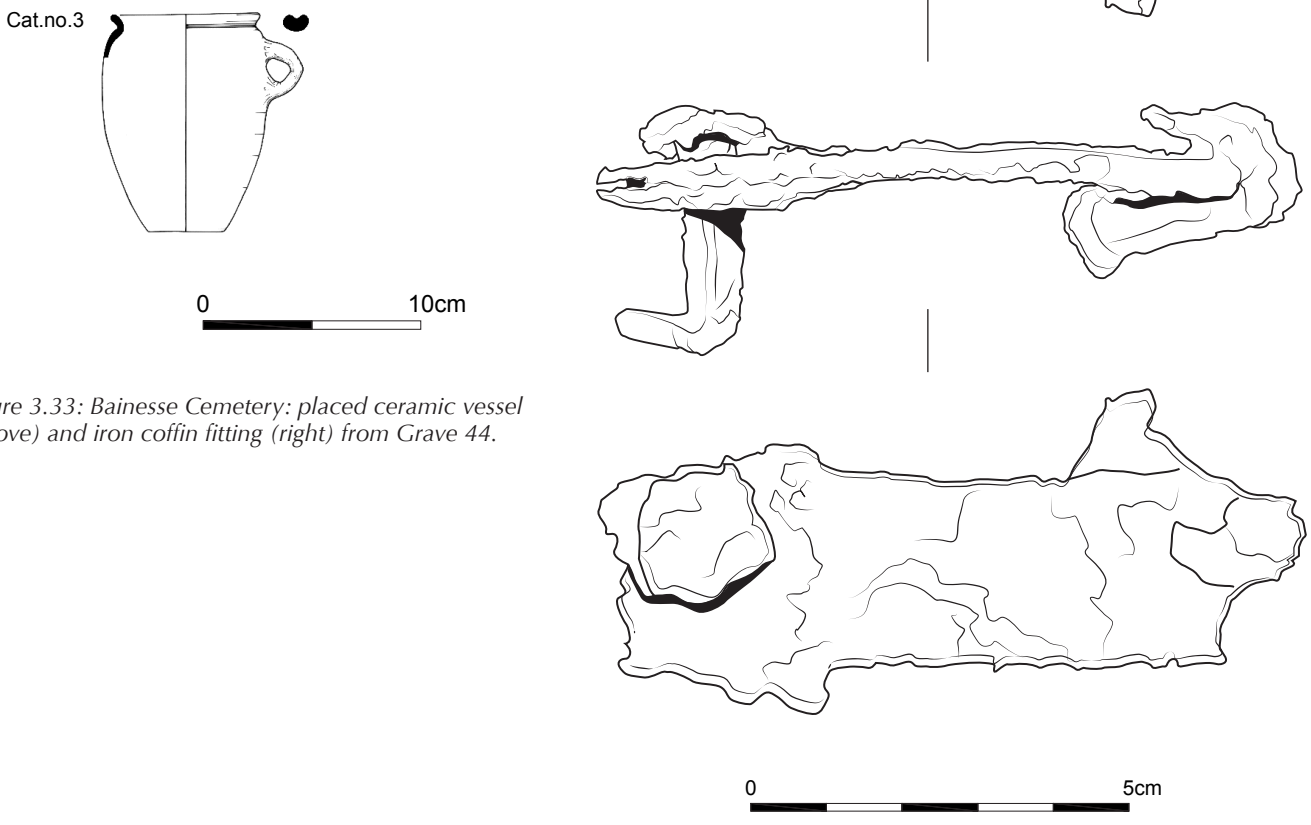


Figure 3.33: Bainesse Cemetery: placed ceramic vessel (above) and iron coffin fitting (right) from Grave 44.

Table 3.40: grave catalogue for Grave 44.

Grave cut 12772	
Orientation	ENE-WSW
Max. dimensions	L: 2.63m, W: 1.32m, D: 0.55m
Associated contexts	Grave fill 12769; coffin fill 12770
Skeleton 12771	
Orientation	Head to WSW
Posture	Supine; head face up; legs extended, parallel
Arm position	-
Sex	-
Age	18+
Completeness	10%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD240–358 (90%), cal AD364–381 (5.4%) (1741 ±26BP, SUERC-72958/GU43632)
	cal AD230–345
Grave contents	
Coffin	Context 12770: RF10532, RF10560–99, RF11100–22, RF11131–42 iron nails x57 (minimum); Cat. no. 399 iron strip with x2 nails
Ceramic vessel	Context 12770: Cat. no. 3 nearly complete black-burnished ware beaker (c.AD120–80)
Grave goods	Context 12770: Cat. no. 314 nailed footwear represented by hobnails: RF11124 (right), RF11125 (left)
Other finds	Context 12769: magnetic matter; hammerscale
	Context 12770: magnetic matter; hammerscale; RF11126 copper-alloy stud
Environmental	-
Interpretative date	AD230–345

GRAVE 45

Table 3.41: grave catalogue for Grave 45.

Grave cut 12551	
Orientation	SSE-NNW
Max. dimensions	L: 1.24m, W: 0.80m, D: 0.30m
Associated contexts	Grave fill 12552
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Iron nail shank; magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 46

The teeth were located near the centre of the grave suggesting that Skeleton 13000 did not represent the primary burial.

Table 3.42: grave catalogue for Grave 46.

Grave cut 13001	
Orientation	SE-NW
Max. dimensions	L: 1.55m, W 0.55m, D: 0.27m
Associated contexts	Grave fill 12999
Skeleton 13000	
Orientation	Head to SE of centre
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	-

GRAVE 47

Table 3.43: grave catalogue for Grave 47.

Grave cut 13042	
Orientation	NE-SW
Max. dimensions	L: >0.52m, W: 0.50m, D: 0.32m
Associated contexts	Grave fill 13041
Skeleton: none	
Grave contents: none	

GRAVE 48

Although no skeletal remains were recorded from this grave on site, a perinate humerus and an adult metacarpal were retrieved from a sample of the grave fill.

Table 3.44: grave catalogue for Grave 48.

Grave cut 13051	
Orientation	SE-NW
Max. dimensions	L: 0.99m, W: 0.56m, D: 0.28m
Associated contexts	Grave fill 13052
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone
Environmental	-
Interpretative date	-

GRAVE 49

Table 3.45: grave catalogue for Grave 49.

Grave cut 12571	
Orientation	N-S
Max. dimensions	L: 1.00m, W: 0.60m, D: 0.35m
Associated contexts	Grave fill 12572
Skeleton: none	
Grave contents: none	

GRAVE 50

The teeth were located near the centre of the grave suggesting that Skeleton 12657 did not represent the primary burial.

Table 3.46: grave catalogue for Grave 50.

Grave cut 12676	
Orientation	SSE-NNW
Max. dimensions	L: 1.60m, W: 0.55m, D: 0.08m
Associated contexts	Grave fill 12674
Skeleton 12675	
Orientation	Head to NNW of centre
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	

GRAVE 51

Table 3.47: grave catalogue for Grave 51.

Grave cut 12582	
Orientation	SSE-NNW
Max. dimensions	L: 1.70m, W: 0.81m, D: 0.45m
Associated contexts	Grave fill 12583
Skeleton 12592	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	DEH
Pathology	Hypervascularity on ectocranial surface of occipital fragment
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Unidentified burnt bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 52

Table 3.48: grave catalogue for Grave 52.

Grave cut 12835	
Orientation	NNE-SSW
Max. dimensions	L: >0.60m, W: 0.57m, D: 0.26m
Associated contexts	Grave fill 12834
Skeleton: none	
Grave contents: none	

GRAVE 53

Table 3.49: grave catalogue for Grave 53.

Grave cut 13048	
Orientation	SSE-NNW
Max. dimensions	L: 1.25m, W: 0.65m, D: 0.55m
Associated contexts	Grave fill 13047
Skeleton: none	
Grave contents: none	

GRAVE 54

Table 3.50: grave catalogue for Grave 54.

Grave cut 12547	
Orientation	SE-NW
Max. dimensions	L: 1.50m, W: 0.44m, D: 0.10m
Associated contexts	Grave fill 12546
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Marine shell
Environmental	-
Interpretative date	AD200–400

GRAVE 55

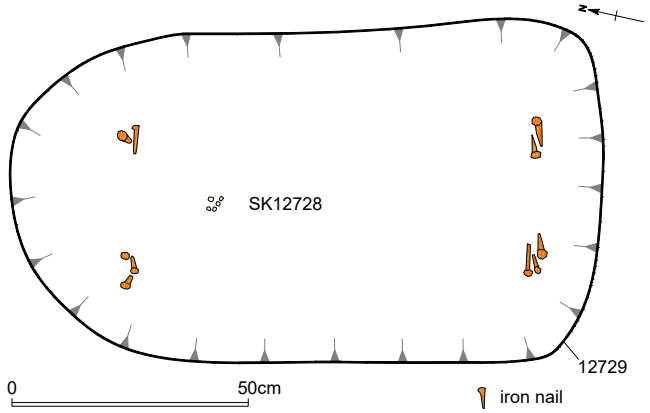


Figure 3.34: Bainesse Cemetery: plan of Grave 55.

The coffin in this grave measured approximately 0.90m by 0.35m by at least 0.16m high and contained between seven and 10 nails, which were suggestive of planks of 25mm thickness.

GRAVE 56

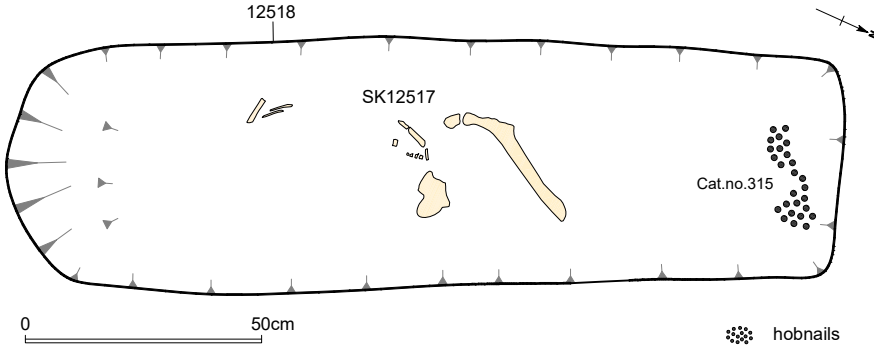


Figure 3.35: Bainesse Cemetery: plan of Grave 56.

Grave **56** largely occupied same footprint as the earlier Grave **57**. The position of the hobnails suggested that the footwear was being worn at the time of interment.

Table 3.51: grave catalogue for Grave 55.

Grave cut 12729	
Orientation	SSE-NNW
Max. dimensions	L: 1.25m, W: 0.68m, D: 0.30m
Associated contexts	Grave fill 12726; coffin fill 12727
Skeleton 12728	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	Context 12727: RF10461–70 iron nails x7 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12726: pottery sherd x2 (Fabric BB1)
	Context 12727: glass chip x1; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD200–400

Table 3.52: grave catalogue for Grave 56.

Grave cut 12518	
Orientation	SSE-NNW
Max. dimensions	L: 1.76m, W: 0.45m, D: 0.22m
Associated contexts	Grave fill 12516
Skeleton 12517	
Orientation	Head to SSE
Posture	Supine; left leg slightly flexed, right not present
Arm position	Left flexed at elbow, hand over pelvis
Sex	-
Age	18+
Completeness	<5%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 315 nailed footwear represented by x24 (minimum) hobnails
Other finds	RF703 iron nail x1; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD260–400

GRAVE 57

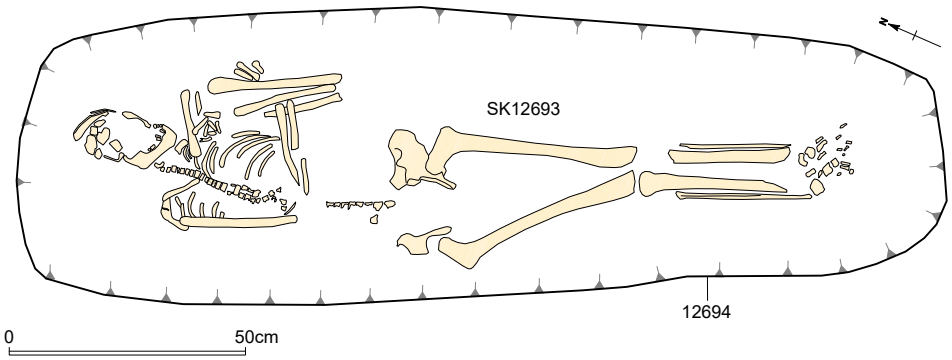


Figure 3.36: Bainesse Cemetery: plan of Grave 57.

Grave **57** was truncated by Grave **56**, which largely occupied the same footprint.

Table 3.53: grave catalogue for Grave 57.

Grave cut 12694	
Orientation	SSE-NNW
Max. dimensions	L: 1.97m, W: 0.56m, D: 0.33m
Associated contexts	Grave fill 12692
Skeleton 12693	
Orientation	Head to NNW
Posture	Supine; head facing left; legs extended, knees and feet together
Arm position	Left arm tightly flexed at elbow, hand on left shoulder, right arm flexed at elbow, right hand on left forearm
Sex	Probable male
Age	26–35
Completeness	60%
Preservation	Very poor
Dental pathology	Calculus, caries, periodontal disease
Pathology	Lamellar bone on medial mid shaft of both tibiae; DJC in tibiae
Stature (mm)	-
C14 date	cal AD262–277 (1.7%), cal AD328–434 (82.4%), cal AD456–469 (1.4%), cal AD487–534 (9.9%) (1650±32BP, SUERC-67701/GU41056)
	cal AD260–275 (1%), cal AD330–435 (94%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Fired clay; magnetic matter; hammerscale
Environmental	Charred plant remains: Apiaceae undet.; Poaceae undet. 2–5mm
Interpretative date	AD260–435

GRAVE 58

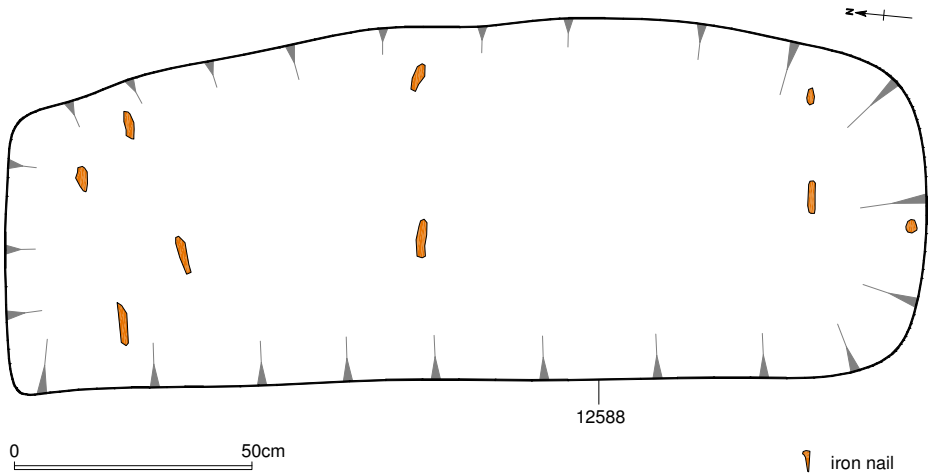


Figure 3.37: Bainesse Cemetery: plan of Grave 58.

The coffin in this grave measured approximately 1.55m by 0.50m by at least 0.16m high and contained between eight and 10 nails.

Table 3.54: grave catalogue for Grave 58.

Grave cut 12588	
Orientation	N-S
Max. dimensions	L: 1.92m, W: 0.75m, D: 0.22m
Associated contexts	Grave fill 12589; coffin fill 12590
Skeleton: none	
Grave contents	
Coffin	Context 12590: RF774–82 iron nails x8 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12589: cremated human bone, unburnt disarticulated human remains; pottery sherd x1 (Fabric OAB1); pottery sherds x6 (Fabric GRB8); magnetic matter; hammerscale; iron nail x1; glass chip x1
Environmental	-
Interpretative date	AD240–350

GRAVE 59

As the size of the grave seemed appropriate for a juvenile, it is unlikely that the adult teeth comprising Skeleton 12688 represented the primary burial.

Table 3.55: grave catalogue for Grave 59.

Cut 12689	
Orientation	N-S
Max. dimensions	L: 0.81m, W: 0.44m, D: 0.19m
Associated contexts	Grave fill 12687
Skeleton 12688	
Orientation	Head to N
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	AD80–320

GRAVE 60

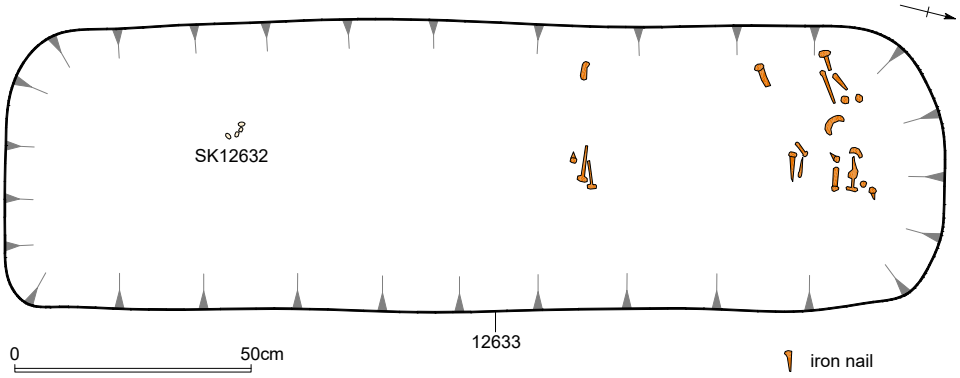


Figure 3.38: Bainesse Cemetery: plan of Grave 60.

The incomplete coffin in this grave measured approximately 0.35m wide by at least 0.11m high and contained at least 16 nails. The dentition comprising Skeleton 12632 was mandibular and belonged to a juvenile aged 5–10 years. As the grave was almost 2m in length, and the teeth were located 0.45m from the end, it seems probable that these represented a disturbed, redeposited mandible rather than the primary burial.

Table 3.56: grave catalogue for Grave 60.

Grave cut 12633	
Orientation	SSE-NNW
Max. dimensions	L: 1.98m, W: 0.62m, D: 0.15m
Associated contexts	Grave fill 12631; coffin fill 12639
Skeleton 12632	
Orientation	Head to SSE
Posture	-
Arm position	-
Sex	-
Age	5–10
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	Context 12639: RF10245–62, RF10264 iron nails x16 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12631: clinker; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD195–400

GRAVE 61

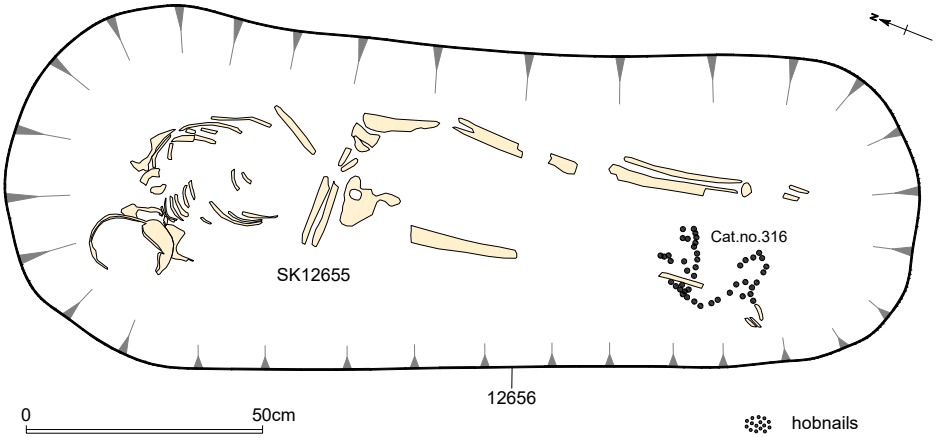


Figure 3.39: Bainesse Cemetery: plan of Grave 61.

The pattern of hobnails, consisting of a minimum of 61, appeared to represent a pair of footwear placed in the area of the lower right leg and foot.

Table 3.57: grave catalogue for Grave 61.

Grave cut 12656	
Orientation	SSE-NNW
Max. dimensions	L: 1.92m, W: 0.68m, D: 0.32m
Associated contexts	Grave fill 12654
Skeleton 12655	
Orientation	Head to NNW
Posture	Supine; head almost upright above right shoulder; torso twisted towards NW; legs extended, parallel
Arm position	Arms flexed at elbow, hands in pelvis
Sex	-
Age	18+
Completeness	30%
Preservation	Poor
Dental pathology	Calculus
Pathology	DJC in C4
Stature (mm)	-
C14 date	cal AD73–225 (95.4%) (1871±29BP, SUERC-72976/GU43661)
	cal AD175–265 (77%), cal AD275–330 (18%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 316 nailed footwear represented by x61 (minimum) hobnails: RF10306–7 (lower right leg and foot), RF13699 recovered from environmental sampling
Other finds	Slag; magnetic matter
Environmental	Charred plant remains: *Triticum spelta* (spelt); Poaceae undet. 2–5mm
Interpretative date	AD175–330

GRAVE 62

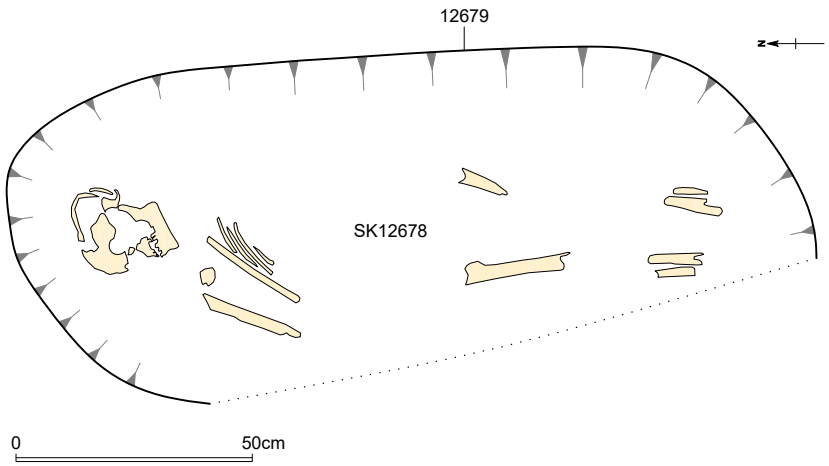


Figure 3.40: Bainesse Cemetery: plan of Grave 62.

Table 3.58: grave catalogue for Grave 62.

Grave cut 12679	
Orientation	N-S
Max. dimensions	L: 1.63m, W: 0.65m, D: 0.22m
Associated contexts	Grave fill 12677
Skeleton 12678	
Orientation	Head to N
Posture	Supine; head tilted to right; legs extended, parallel
Arm position	Right arm slightly extended at shoulder, tightly flexed at elbow, hand by right scapula
Sex	Probable male
Age	18+
Completeness	15%
Preservation	Poor
Dental pathology	Caries
Pathology	-
Stature (mm)	-
C14 date	cal AD133–260 (76.8%), cal AD280–325 (18.6%) (1796±27BP, SUERC-74411/GU44478)
	cal AD145–260
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Wood (probably modern intrusion); chert debitage x1
Environmental	-
Interpretative date	AD145–260

GRAVE 63

Table 3.59: grave catalogue for Grave 63.

Grave cut 12848	
Orientation	NNE-WSW
Max. dimensions	L: >0.55m, W: 0.42m, D: 0.20m
Associated contexts	Grave fill 12847
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	AD80–400

GRAVE 64

Table 3.60: grave catalogue for Grave 64.

Grave cut 12806	
Orientation	ENE-WSW
Max. dimensions	L: 1.42m, W: 0.82m, D: 0.32m
Associated contexts	Grave fill 12805
Skeleton 12826 (64a)	
Orientation	Head to ENE (teeth from two individuals identified)
Posture	-
Arm position	-
Sex	-
Age	Non-adult
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	Failed
Skeleton 13883 (64b)	
Orientation	Head to ENE (teeth from two individuals identified)
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	RF1150–2, RF11154-5, RF11166–8, RF11186–7, RF11189–91, RF11198–200, RF11202–4 iron nails x17 (minimum)
Ceramic vessel	Cat. no. 4 pottery sherds x31 from a small reduced coarseware jar/beaker (Fabric GRB2) dated from the mid-2nd–mid-3rd century AD; Cat. no. 5 pottery sherds x77 from a late black-burnished ware jar (c.AD240–270)
Grave goods	Cat. no. 317 nailed footwear represented by x73 (minimum) hobnails
Other finds	Pottery sherd x1 (Fabric OBB1); magnetic matter; clinker; hammerscale
Environmental	-
Interpretative date	AD240–350

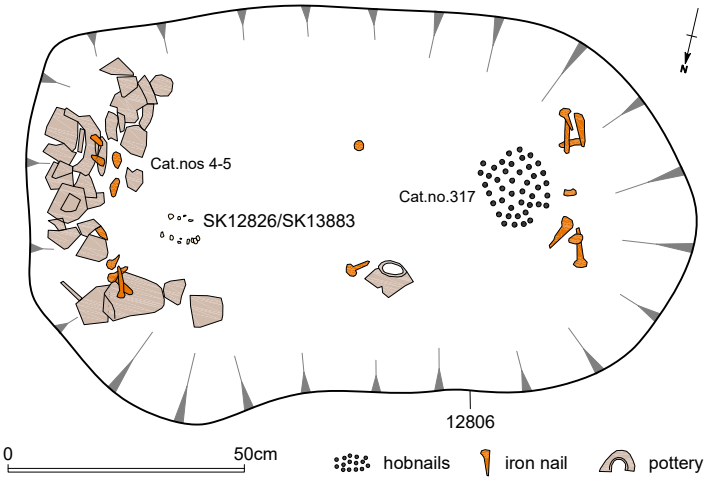


Figure 3.41: Bainesse Cemetery: plan of Grave 64.

The coffin in this grave measured approximately 1.00m long by 0.34m wide by at least 0.21m high and contained a minimum of 17 nails that suggested 25mm thick planks. The spread of fragmented pottery (Cat. nos 4 and 5) represented two vessels, one complete and one largely complete, which were deposited outside the head end of the coffin. Although the teeth recovered at the east-northeastern end of the coffin were all in close proximity and thought to represent one individual, the osteological analysis determined that the teeth of two individuals were present, representative of one adult and one non-adult. The dimensions of the coffin indicated that the latter was likely to have been the primary burial. The position of the hobnails suggested that the footwear was being worn at the point of interment.

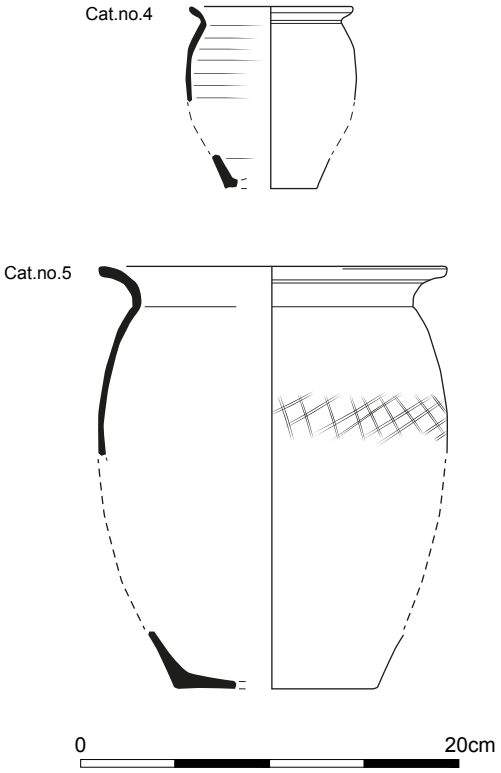


Figure 3.42 (right): Bainesse Cemetery: smashed ceramic vessels from Grave 64.

GRAVE 65

Table 3.61: grave catalogue for Grave 65.

Grave cut 13057	
Orientation	ENE-WSW
Max. dimensions	L: 1.58m, W: 0.62m, D: 0.34m
Associated contexts	Grave fill 13058
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charcoal: Maloideae (pomaceous wood)
Interpretative date	-

GRAVE 66

Table 3.62: grave catalogue for Grave 66.

Grave cut 12840	
Orientation	ENE-WSW
Max. dimensions	L: >0.70m, W: 0.60m, D: 0.18m
Associated contexts	Grave fill 12839
Skeleton: none	
Grave contents: none	
Interpretative date	AD80–400

GRAVE 67

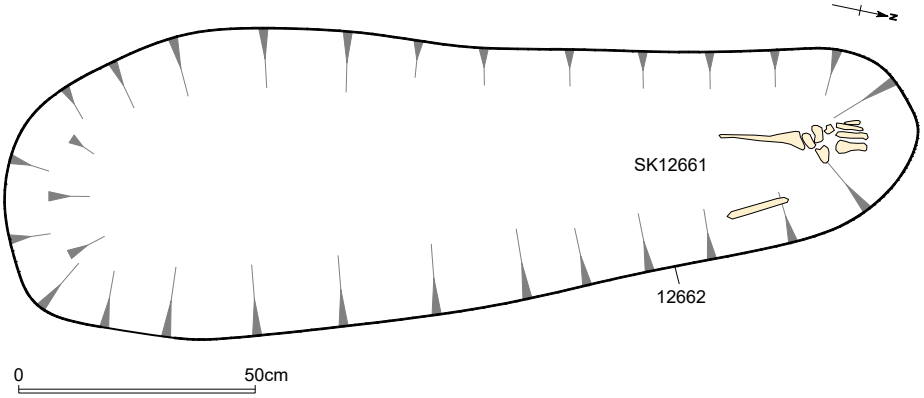


Figure 3.43: Bainesse Cemetery: plan of Grave 67.

The differential bone preservation in this burial was very marked, in that the lower left leg and foot survived relatively intact, while the only other remains were extremely degraded fragments of the lower right leg and some dentition.

Table 3.63: grave catalogue for Grave 67.

Grave cut 12662	
Orientation	SSE-NNW
Max. dimensions	L: 1.94m, W: 0.62m, D: 0.40m
Associated contexts	Grave fill 12660
Skeleton 12661	
Orientation	-
Posture	Supine; legs extended, parallel
Arm position	-
Sex	-
Age	18+
Completeness	5%
Preservation	Poor
Dental pathology	Calculus, DEH
Pathology	DJC left foot
Stature (mm)	-
C14 date	cal AD86–239 (95.4%) (1845±29BP, SUERC-72959/GU43633)
	cal AD155–265 (81%), cal AD275–330 (14%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric GRB50); RF12864 copper-alloy wire fragment, coal; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
Interpretative date	AD155–330

GRAVE 68

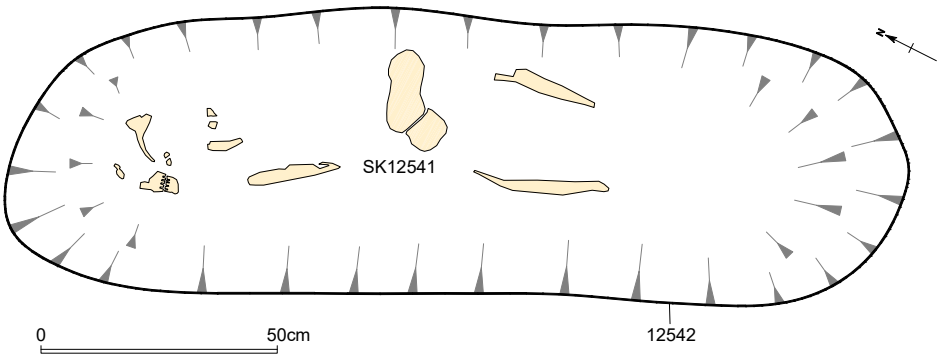


Figure 3.44: Bainesse Cemetery: plan of Grave 68.

Table 3.64: grave catalogue for Grave 68.

Grave cut 12542	
Orientation	SSE-NNW
Max. dimensions	L: 2.12m, W:0.70m, D: 0.38m
Associated contexts	Grave fill 12540
Skeleton 12541	
Orientation	Head to NNW
Posture	Supine; head facing right; legs extended, parallel
Arm position	Upper right parallel with cut
Sex	-
Age	18+
Completeness	<5%
Preservation	Extremely poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF713 iron nail shank x1; pottery sherd x1 (Fabric OAA?); magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Triticum aestivum* (bread wheat)
Interpretative date	-

GRAVE 69

This grave number was allocated to the fragmentary remains of Skeleton 12511, which were recorded during the excavation of Grave **71** and **73**. The remains comprised in situ maxillary and mandibular teeth, indicating a degree of articulation, but no corresponding separate grave cut could be defined.

Table 3.65: grave catalogue for Grave 69.

Grave cut 12512	
Orientation	NE-SW? (based on position of teeth)
Max. dimensions	Unknown (no edges discernible)
Associated contexts	Grave fill 12510
Skeleton 12511	
Orientation	Head to SW?
Posture	Supine
Arm position	-
Sex	-
Age	18-25
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric GRA5); pottery sherd x1 (Fabric GRB50)
Environmental	-
Interpretative date	AD165–300

GRAVE 70

Grave **70** cut Grave **71** but the fills were so similar that the edges of the cut could only be accurately defined where they extended beyond the confines of the latter grave.

Table 3.66: grave catalogue for Grave 70.

Grave cut 12570	
Orientation	ENE-WSW
Max. dimensions	L: >1.25m, W: 0.88m, D: 0.35m
Associated contexts	Grave fill 12569
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x2 (Fabric GRA6); pottery sherd x1 (Fabric GRA5); pottery sherd x2 (Fabric GRB50); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD165–400

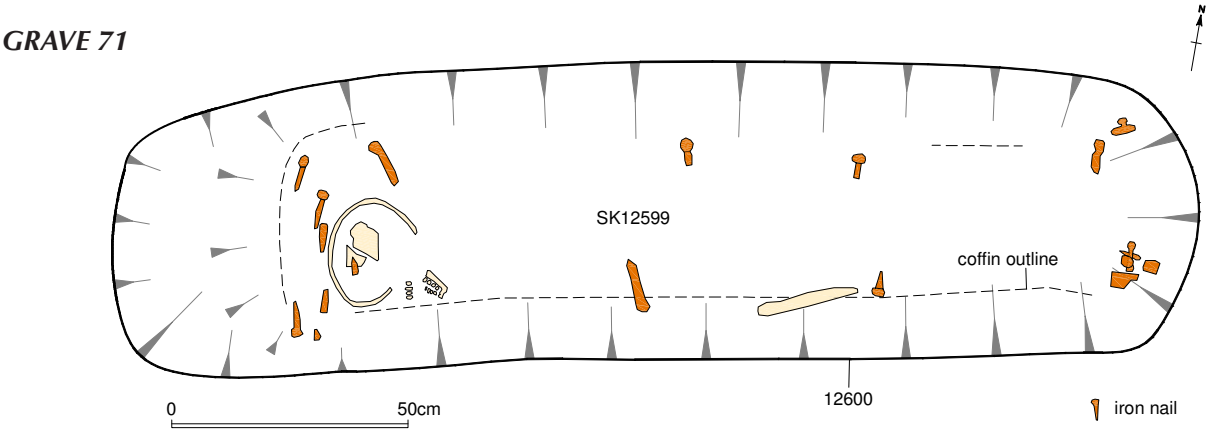


Figure 3.45: Bainesse Cemetery: plan of Grave 71.

The coffin in this grave measured approximately 1.85m by 0.40m by at least 0.22m high and contained at least 15 nails.

Table 3.67: grave catalogue for Grave 71.

Grave cut 12600	
Orientation	E-W
Max. dimensions	L: 1.88m, W: 0.62m, D: 0.52m
Associated contexts	Grave fill 12597; coffin impression 12598
Skeleton 12599	
Orientation	Head to W
Posture	Supine; head facing right; partial right femur parallel to grave
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD86–110 (4.1%), cal AD116–247 (91.3%) (1834±29BP, SUERC-72977/GU43662)
	cal AD165–335
Grave contents	
Coffin	RF771–3, RF10200–19 iron nails x15 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12597: undiagnostic ceramic building material fragments x6; magnetic matter; hammerscale
Environmental	Context 12597: charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD165–335

GRAVE 72

Table 3.68: grave catalogue for Grave 72.

Grave cut 12649	
Orientation	E-W
Max. dimensions	L: 1.30m W:0.70m D: 0.30m
Associated contexts	Grave fill 12648
Skeleton 12578	
Orientation	Head to W
Posture	Supine?
Arm position	-
Sex	-
Age	18+
Completeness	<5%—dentition only
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD165–400

GRAVE 73

Table 3.69: grave catalogue for Grave 73.

Grave cut 12625	
Orientation	SSE-NNW
Max. dimensions	L: >0.90m, W: 0.70m, D: 0.50m
Associated contexts	Grave fill 12623
Skeleton 12624	
Orientation	Head to NNW
Posture	Head facing right; torso appeared to be on its right side
Arm position	Upper left angled away from torso, lower flexed 90° to abdomen area
Sex	Probable female
Age	26–35
Completeness	15%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x1 (Fabric GRA5); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–335

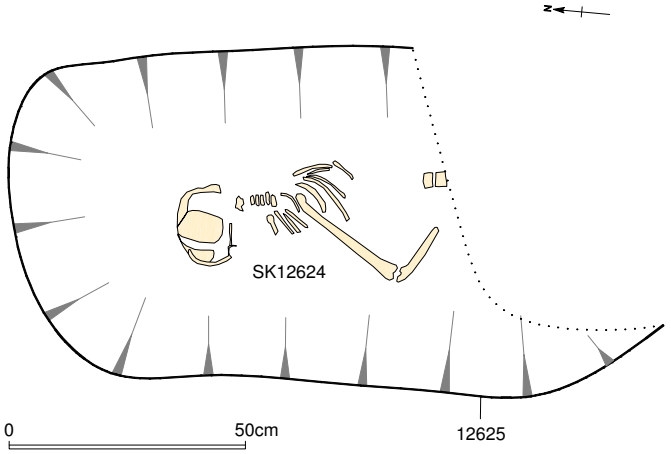


Figure 3.46: Bainesse Cemetery: plan of Grave 73.

GRAVE 74

Table 3.70: grave catalogue for Grave 74.

Grave cut 12509	
Orientation	SSE-NNW
Max. dimensions	L: >0.90m, W: 0.95m, D: 0.12m
Associated contexts	Grave fill 12505
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cat. no. 343 x8 hobnails (dispersed, not in situ footwear)
Environmental	-
Interpretative date	AD165–400

GRAVE 75

Table 3.71: grave catalogue for Grave 75.

Grave cut 12849	
Orientation	N-S
Max. dimensions	L: 1.70m, W: 0.90m, D: 0.48m
Associated contexts	Grave fill 12850
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 77

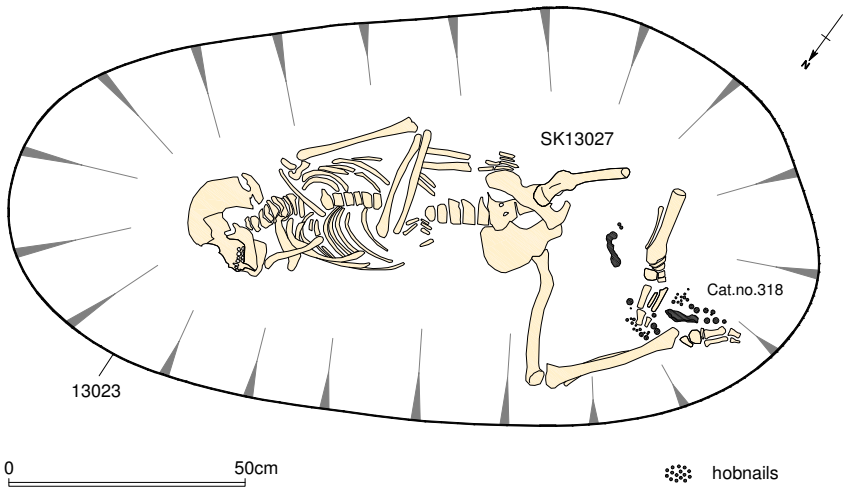


Figure 3.47: Bainesse Cemetery: plan of Grave 77.

Grave **77** was truncated by Grave **78**, which largely occupied the same footprint. The skeleton was wearing nailed footwear consisting of a minimum of 112 hobnails and two shoe plates. Many of the hobnails were retrieved from a soil sample taken from around the feet and are thus not illustrated on the plan.

Table 3.72: grave catalogue for Grave 77.

Grave cut 13023	
Orientation	ENE-WSW
Max. dimensions	L: 1.60m, W: 1.16m, D: 0.64m
Associated contexts	Grave fill 13024
Skeleton 13027	
Orientation	Head to ENE
Posture	Supine; head facing right; torso and pelvis tilted right; legs splayed, both legs extended at the hip and flexed at the knee, right knee slightly raised; feet together
Arm position	Left flexed at elbow over thorax; right slightly flexed under torso
Sex	-
Age	13–15
Completeness	85%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	Cleft neural arches S3-5, cranial shift of thoracic-lumbar border, cribra orbitalia, sinusitis, lamellar bone on femoral shafts
Stature (mm)	-
C14 date	cal AD31–37 (1.1%), cal AD51–217 (94.3%) (1896±32BP, SUERC-67707/GU41063)
	cal AD150–265
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 318 nailed footwear represented by x112 (minimum) hobnails and shoe plates: RF11366 (left), RF11367 (right), others from environmental sample
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD150–265

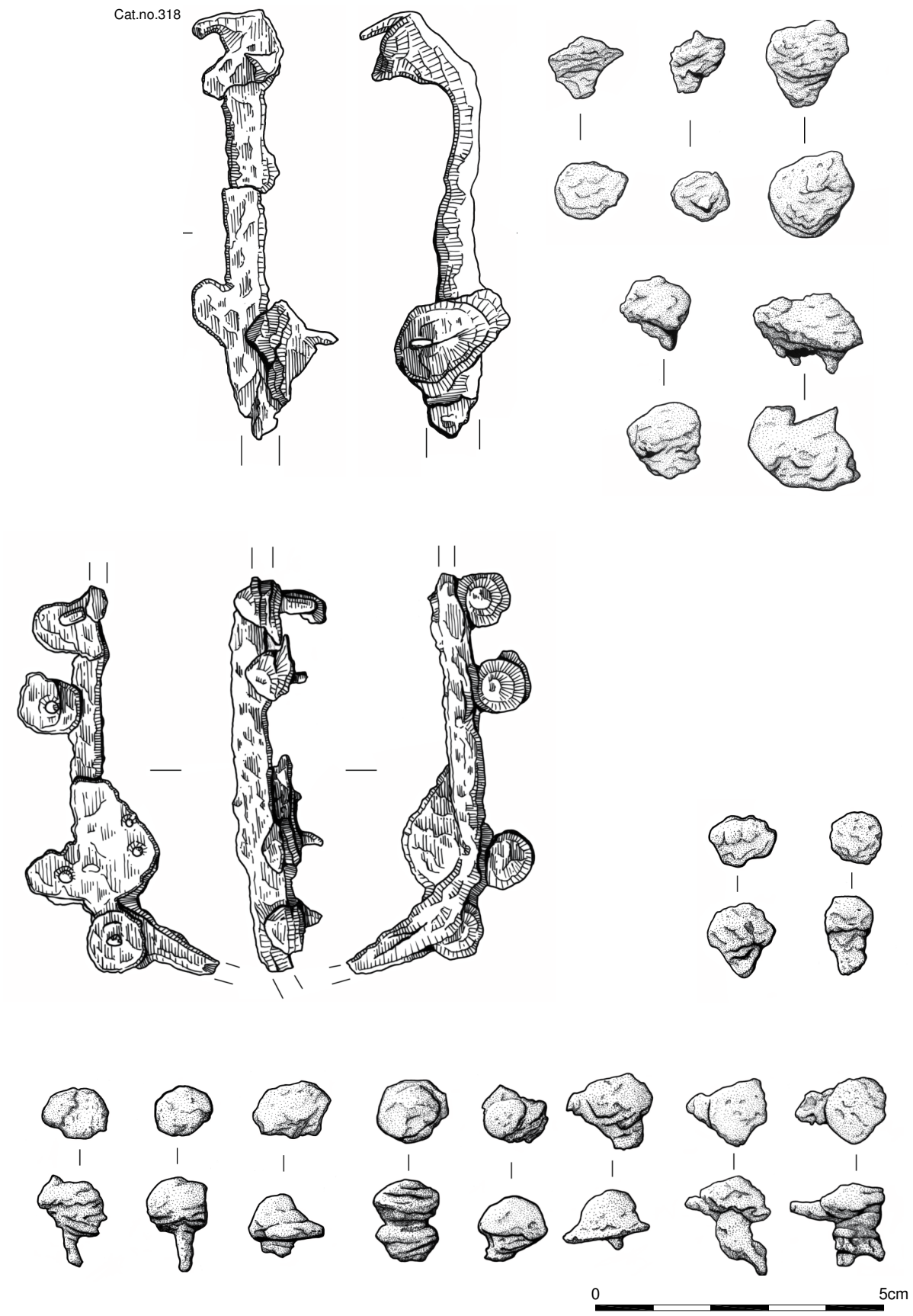


Figure 3.48: Bainesse Cemetery: hobnails and shoe plates from Grave 77.

GRAVE 78

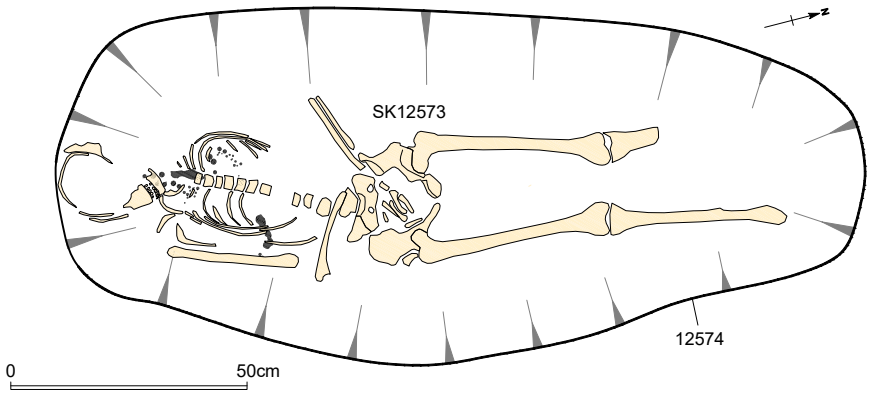


Figure 3.49: Bainesse Cemetery: plan of Grave 78.

Grave **78** largely occupied same footprint as Grave **77**.

Table 3.73: grave catalogue for Grave 78.

Grave cut 12574	
Orientation	ENE-WSW
Max. dimensions	L: 1.70m, W: 0.70m, D: 0.21m
Associated contexts	Grave fill 12586
Skeleton 12573	
Orientation	Head to WSW
Posture	Supine; head tilted right; legs extended, parallel
Arm position	Right flexed at elbow, hand over abdomen; left flexed at elbow, hand over pelvis
Sex	Probable female
Age	26–35
Completeness	70%
Preservation	Moderate
Dental pathology	Calculus, caries, DEH
Pathology	Schmorl's nodes, DJC proximal femora; oblique fracture of third left metacarpal
Stature (mm)	-
C14 date	cal AD239–389 (95.4%) (1732±32BP, SUERC-67694/GU41052)
	cal AD240–390
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood; root undet.
	Charred plant remains: *Rubus saxatilis* (blackberry)
Interpretative date	AD240–390

GRAVE 79

Table 3.74: grave catalogue for Grave 79.

Grave cut 13018	
Orientation	NNE-SSW
Max. dimensions	L: >1.05m, W: 0.70m, D: 0.26m
Associated contexts	Grave fill 13019
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: undetermined <1mm
Interpretative date	AD80–265

GRAVE 80

Table 3.75: grave catalogue for Grave 80.

Grave cut 13045	
Orientation	ENE-WSW
Max. dimensions	L: 0.92m, W: 0.60m, D: 0.50m
Associated contexts	Grave fill 13046
Skeleton: none	
Grave contents: none	

GRAVE 81

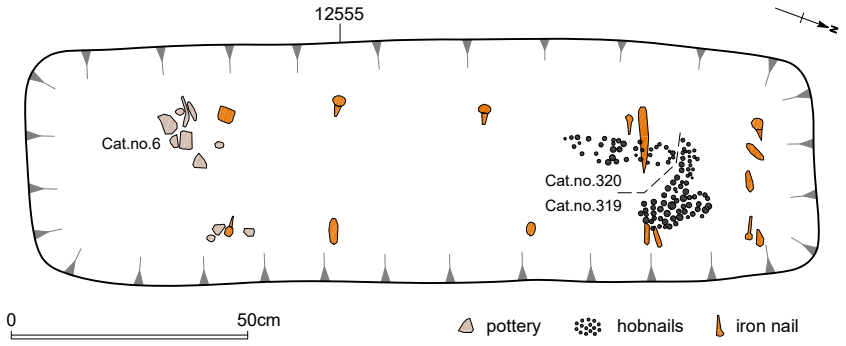


Figure 3.50: Bainesse Cemetery: plan of Grave 81.

The coffin in this grave measured approximately 1.15m by 0.30m by at least 0.16m high and contained at least 13 nails. The pattern of hobnails recovered appeared to represent two pairs of footwear within the north-northwest end of the coffin, suggesting that this was the foot end. It also suggested that the footwear was lying flat, and so was not being worn. The minimum total number of hobnails was 118. Although no skeletal remains were recorded on site, four teeth were recovered from a sample of coffin fill 12556, which was taken from the torso area. These were identified as belonging to a juvenile of 6–12 years of age. The sherds of the incomplete ceramic vessel (Cat. no. 6) were located outside the coffin at what is interpreted as the head end of the grave.

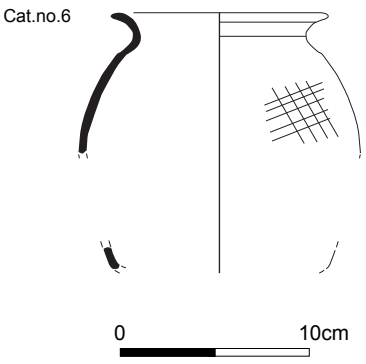


Figure 3.51: Bainesse Cemetery: redeposited ceramic vessel from Grave 81.

Table 3.76: grave catalogue for Grave 81.

Grave cut 12555	
Orientation	SSE-NNW
Max. dimensions	L: 1.60m, W: 0.50m, D: 0.18m
Associated contexts	Coffin fill 12556; grave fill 12575
Skeleton: none	
Grave contents	
Coffin	Context 12556: RF717–25, RF731, RF761–5 iron nails x13 (minimum)
Ceramic vessel	Context 12556: Cat. no. 6 pottery sherds x9 sherds from an incomplete reduced coarseware (Fabric GRB11) jar (c.AD200-280)
Grave goods	Cat. nos 319–320 nailed footwear (two pairs) represented by x118 (minimum) hobnails at NNW end
Other finds	-
Environmental	-
Interpretative date	AD195–300

GRAVE 82

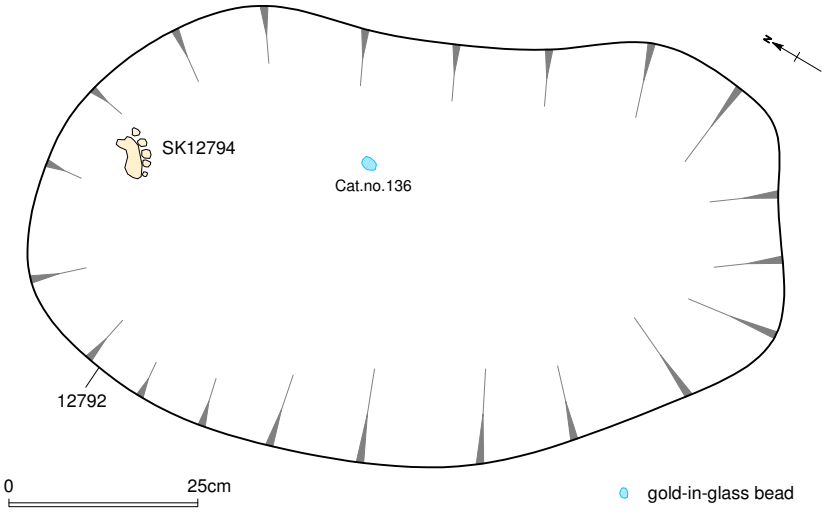


Figure 3.52: Bainesse Cemetery: plan of Grave 82.

The bead (Cat. no. 137) was located centrally on the base of the grave and thus could have been deliberately deposited. However, it is also possible that this was an inclusion in the backfill. As the skeleton was aged 13–17 years, it seems unlikely it was the primary burial in a grave measuring 1m in length, although it could have been flexed.

Figure 3.53: Bainesse Cemetery: glass bead from Grave 82.

Table 3.77: grave catalogue for Grave 82.

Grave cut 12792	
Orientation	SSE-NNW
Max. dimensions	L: 1.00m, W: 0.53m, D: 0.29m
Associated contexts	Grave fill 12793
Skeleton 12794	
Orientation	Head to NNW
Posture	Supine?
Arm position	-
Sex	-
Age	13–17
Completeness	<5%
Preservation	Very poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 136 gold-in-glass bead
Other finds	RF11143 copper-alloy sheet fragment; RF11123, RF11129 x1 iron nail and x1 iron nail shank; magnetic matter
Environmental	-
Interpretative date	AD100–400

GRAVE 83

Table 3.78: grave catalogue for Grave 83.

Grave cut 12788	
Orientation	SSE-NNW
Max. dimensions	L: 0.90m, W: 0.40m, D: 0.35m
Associated contexts	Grave fill 12789
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 84

Table 3.79: grave catalogue for Grave 84.

Grave cut 12824	
Orientation	SSE-NNW
Max. dimensions	L: 1.42m, W: 0.72m, D: 0.63m
Associated contexts	Grave fill 12825
Skeleton: none	
Grave contents: none	

GRAVE 85

Table 3.80: grave catalogue for Grave 85.

Grave cut 12817	
Orientation	SSE-NNW
Max. dimensions	L: 1.25m W: 0.75m D: 0.37m
Associated contexts	Grave fill 12818
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric GRB8)
Environmental	-
Interpretative date	-

GRAVE 86

Grave **86** was truncated by Grave **87**, which largely occupied the same footprint. The skeleton was wearing nailed footwear consisting of a minimum of 114 hobnails.

Table 3.81: grave catalogue for Grave 86.

Grave cut 12749	
Orientation	ENE-WSW
Max. dimensions	L: 1.87m, W: 0.74m, D: 0.60m
Associated contexts	Grave fill 12747
Skeleton 12748	
Orientation	Head to WSW
Posture	Supine; head facing forwards; legs extended, parallel
Arm position	Both arms flexed at elbows, hands on torso
Sex	Probable male
Age	26–35
Completeness	90%
Preservation	Moderate
Dental pathology	Calculus, caries, periodontal disease
Pathology	Cribra orbitalia; lamellar bone on both anterior femora and both proximal fibulae shafts; woven bone on medial surface of left tibia; left foot exhibits trauma/inflammation on intermediate cuneiform, medial cuneiform and metatarsals; DJC in femora, tibiae, left foot
Stature (mm)	1673±32.7
C14 date	cal AD5–143 (92.6%), cal AD153–169 (1.4%), cal AD195–209 (1.4%) (1916±32BP, SUERC-67703/GU41059)
	cal AD150–255
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 321 nailed footwear represented by x114 (minimum) hobnails: RF10529 (left), RF10530 (right), RF13601 (unlocated)
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD150–255

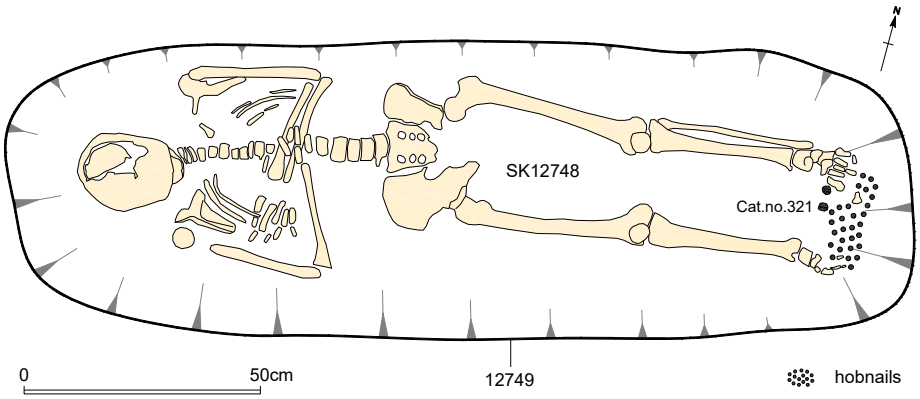


Figure 3.54: Bainesse Cemetery: plan of Grave 86.

GRAVE 87

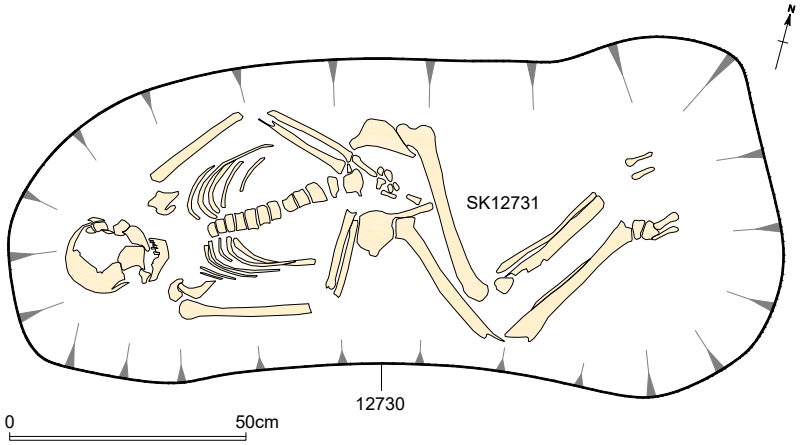


Figure 3.55: Bainesse Cemetery: plan of Grave 87.

Grave **87** largely occupied the same footprint as Grave **86**.

GRAVE 88

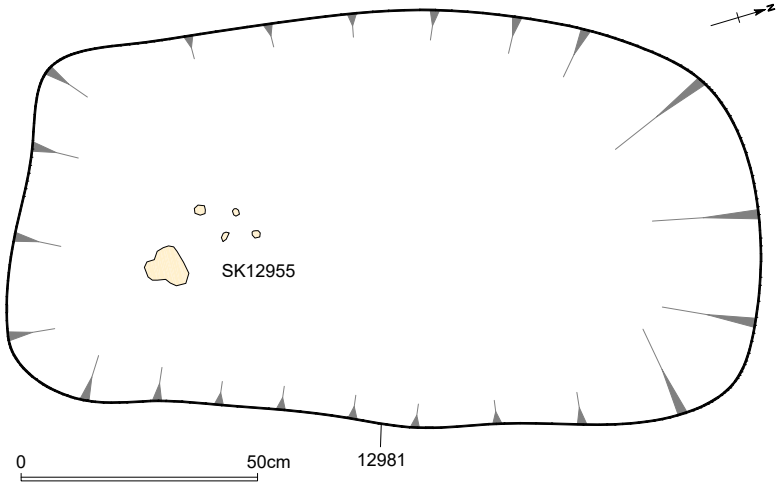


Figure 3.56: Bainesse Cemetery: plan of Grave 88.

This grave contained seven coffin-type nails, all at the head end of the grave. There was only 0.08m separating the highest from the lowest. Therefore, it seems unlikely that these represented the remains of a coffin.

Table 3.82: grave catalogue for Grave 87.

Grave cut 12730	
Orientation	ENE-WSW
Max. dimensions	L: 1.65m, W: 0.75m, D: 0.44m
Associated contexts	Grave fill 12732
Skeleton 12731	
Orientation	Head to WSW
Posture	Supine; head tilted forwards; legs flexed at hip and knee; feet together
Arm position	Flexed at elbows, hands crossed on pelvis
Sex	Probable male
Age	46+
Completeness	85%
Preservation	Moderate
Dental pathology	AMTL, calculus, caries, DEH, at least five abscesses
Pathology	Cribra orbitalia; exostosis/granuloma in left sinus; circular patch of vascularised bone in left nasal floor; Schmorl's nodes; DJC in spine, in right clavicle, proximal humeri, distal radii, proximal ulnae, femora, tibiae, feet, hands; fractured left tibia shaft and mid/distal fibula shaft; possible fusion of left calcaneus and talus
Stature (mm)	-
C14 date	cal AD86–254 (93.6%), cal AD302–315 (1.8%) (1828±32BP, SUERC-67702/GU41058)
	cal AD185–355 (94%), cal AD370–380 (1%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; fired clay; chert debitage x5
Environmental	Charcoal: *Rosa* (rose)
Interpretative date	AD185–380

Table 3.83: grave catalogue for Grave 88.

Grave cut 12981	
Orientation	NNE-SSW
Max. dimensions	L: 1.60m, W: 0.88m, D: 0.49m
Associated contexts	Grave fill 12982
Skeleton 12955	
Orientation	Head to SSW
Posture	-
Arm position	-
Sex	-
Age	Non-adult
Completeness	<5%
Preservation	Poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	
Ceramic vessel	-
Grave goods	-
Other finds	RF11285–91 iron nails x3 (minimum); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

GRAVE 89

Although no skeletal remains were recorded on site, tooth fragments retrieved from a sample of the fill were catalogued as belonging to a non-adult of at least four years of age.

Table 3.84: grave catalogue for Grave 89.

Grave cut 12954	
Orientation	ENE-WSW
Max. dimensions	L: >1.73m, W: >0.70m, D: 0.36m
Associated contexts	Grave fill 12956
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–255

GRAVE 91

Table 3.85: grave catalogue for Grave 91.

Grave cut 12873	
Orientation	SE-NW
Max. dimensions	L: 1.15m, W: 0.73m, D: 0.39m
Associated contexts	Grave fill 12874
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

GRAVE 92

This grave was not recorded as truncating any earlier burials, so the assemblage of disarticulated bone (**12461**) at the southern end of the grave possibly originated from a shallower grave that had been totally removed by grave cut **12455**. A cattle mandible in fill **12453** lay directly on top of this disarticulated bone and seemed likely to have been deposited at the same time.

Figure 3.57 (right): Bainesse Cemetery: iron (shroud?) pin from Grave 92.

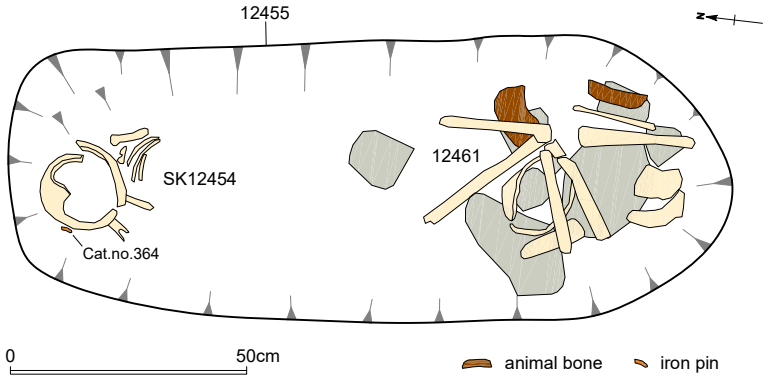


Figure 3.58 (above): Bainesse Cemetery: plan of Grave 92.

Table 3.86 (below): grave catalogue for Grave 92.

Grave cut 12455	
Orientation	N-S
Max. dimensions	L: 1.50m, W: 0.58m, D: 0.60m
Associated contexts	Grave fill 12453; disarticulated bone 12461
Skeleton 12454 (92a)	
Orientation	Head to N
Posture	Head face down
Arm position	-
Sex	-
Age	18+
Completeness	15%
Preservation	Poor
Dental pathology	AMTL, calculus
Pathology	New bone on superior ectocranial surface of nuchal crest; hypervascularity on superior occipital bone
Stature (mm)	-
C14 date	cal AD125–258 (90.8%), cal AD285–287 (0.2%), cal AD296–322 (4.3%) (1817±29BP, SUERC-72994/GU43678)
	cal AD165–340
Disarticulated bone 12461 (92b)	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	20%
Preservation	Very poor
Dental pathology	-
Pathology	Lamellar bone on shafts of both femora
Stature (mm)	-
C14 date	cal AD138–200 (14.0%), cal AD206–337 (81.4%) (1777±29BP, SUERC-72989/GU43674)
	cal AD215–390
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12453: RF665 iron nail or pin; cremated human bone; pottery sherd x1 (Fabric NV1); pottery sherds x2 (Fabric GRB2); pottery sherds x2 (Fabric GRA?); animal bone; magnetic matter; hammerscale
Environmental	Context 12453: charcoal: *Corylus* (hazel)
	Context 12453: charred plant remains: *Corylus avellana* (hazelnut)
Interpretative date	AD215–390

GRAVE 93

Table 3.87: grave catalogue for Grave 93.

Grave cut 12878	
Orientation	SSE-NNW
Max. dimensions	L: 1.35m, W: 0.70m, D: 0.25m
Associated contexts	Secondary grave fill 12875; primary grave fill 12876
Skeleton 12877	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12876: pottery sherd x1 (Fabric BB1); magnetic matter; hammerscale
Environmental	Context 12876: charcoal: undet. hardwood
	Context 12876: charred plant remains: Asteraceae undet.
Interpretative date	AD120–400

GRAVE 94

Table 3.88: grave catalogue for Grave 94.

Grave cut 12615	
Orientation	SE-NW
Max. dimensions	L: 1.46m, W: 0.62m, D: 0.28m
Associated contexts	Grave fill 12616
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	-

GRAVE 95

Table 3.89: grave catalogue for Grave 95.

Grave cut 12986	
Orientation	ESE-WNW
Max. dimensions	L: 1.30m, W: 0.78m, D: 0.48m
Associated contexts	Grave fill 12985
Skeleton: none	
Grave contents: none	

GRAVE 96

Table 3.90: grave catalogue for Grave 96.

Grave cut 12479	
Orientation	NE-SW
Max. dimensions	L: 1.55m, W: 0.65m, D: 0.40m
Associated contexts	Grave fill 12473
Skeleton 12481	
Orientation	Head to SW
Posture	Supine?
Arm position	-
Sex	-
Age	18–25
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Amphora sherd (Dressel 20) x 1; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
Interpretative date	AD80–400

POSSIBLE GRAVE 97

The appearance of cut **12452**, which was a wide, shallow, irregular depression, did not appear akin to grave. It is included as a possible grave because of its location and the fact that it contained a sherd of Roman period pottery, although this could have derived from any of Graves **91**, **96**, and **98**, all of which were cut by Grave **97**.

Table 3.91: grave catalogue for possible Grave 97.

Grave cut 12452	
Orientation	NNE-SSW
Max. dimensions	L: 1.40m, W: 1.02m, D: 0.10m
Associated contexts	Grave fill 12451
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric BB1)
Environmental	-
Interpretative date	AD200–300

GRAVE 98

Table 3.92: grave catalogue for Grave 98.

Grave cut 12897	
Orientation	N-S
Max. dimensions	L: 0.80m, W: 0.63m, D: 0.28m
Associated contexts	Grave fill 12898
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

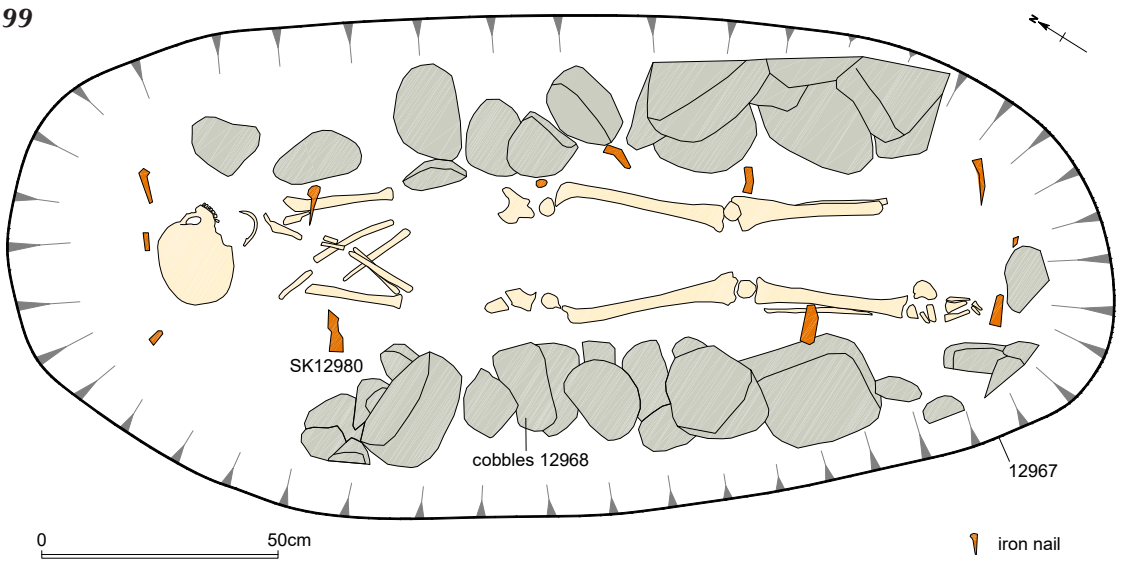


Figure 3.59: Bainesse Cemetery: plan of Grave 99.

The coffin in this grave measured approximately 1.80m by 0.35m by at least 0.19m high and contained at least 12 nails. These suggested planks that were 25 and 35mm thick. The deposit of cobbles (**12968**) recorded abutting the outside of the coffin possibly represent the initial selection of the larger stones from the upcast that were placed carefully as part of the initial backfill so as not to damage the coffin.

Table 3.93: grave catalogue for Grave 99.

Grave cut 12967	
Orientation	SE-NW
Max. dimensions	L: 2.30m, W: 1.05m, D: 0.84m
Associated contexts	Grave fill 12965; coffin fill 12966; cobbles 12968
Skeleton 12980	
Orientation	Head to NW
Posture	Supine; head tilted left; legs extended, parallel
Arm position	Arms flexed at elbows, hands crossed over torso
Sex	Probable male
Age	26–35
Completeness	60%
Preservation	Very poor
Dental pathology	Calculus, DEH
Pathology	Cribra orbitalia, sinusitis, lamellar bone on tibiae and femora, lamellar bone on orbital rims, hypervascularity on ectocranial surface of vault fragments; DJC right navicular
Stature (mm)	-
C14 date	cal AD170–194 (2.5%), cal AD211–381 (92.9%) (1762±29BP, SUERC-73008/GU43689)
	cal AD245–415
Grave contents	
Coffin	Context 12966: RF11308–18 iron nails x12 (minimum)
Ceramic vessel	-
Grave goods	Context 12966: Cat. no. 375 leather fragments
Other finds	Context 12965: magnetic matter; hammerscale
	Context 12966: magnetic matter
Environmental	-
Interpretative date	AD245–415

GRAVE 100

Table 3.94: grave catalogue for Grave 100.

Grave cut 12907	
Orientation	SE-NW
Max. dimensions	L: 1.12m, W: 0.65m, D: 0.28m
Associated contexts	Grave fill 12908
Skeleton: none	
Grave contents: none	
Interpretative date	AD245–400

GRAVE 101

Table 3.95: grave catalogue for Grave 101.

Grave cut 12969	
Orientation	E-W
Max. dimensions	L: 1.05m, W: 0.94m, D: 0.88m
Associated contexts	Grave fill 12970
Skeleton: none	
Grave contents: none	

GRAVE 102

The coffin in this grave measured approximately 0.90m by 0.35m by at least 0.14m high and contained a minimum of 10 nails, which suggested planks between 20 and 25mm thick.

Table 3.96: grave catalogue for Grave 102.

Grave cut 12929	
Orientation	N-S
Max. dimensions	L: 1.33m, W: 0.62m, D: 0.62m
Associated contexts	Grave fill 12930
Skeleton 12936	
Orientation	Head to S
Posture	Supine; head face up; legs extended, parallel
Arm position	-
Sex	-
Age	c.3
Completeness	10%
Preservation	Poor
Dental pathology	Calculus, Carabelli's cusp on first permanent maxillary molars bilaterally
Pathology	-
Stature (mm)	-
C14 date	cal AD86–237 (95.4%) (1848±29BP, SUERC-73015/GU43693)
	cal AD160–350
Grave contents	
Coffin	RF11260, RF11262–82 iron nails x10 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Cat. no. 344 hobnail x1 (disturbed shoe?); magnetic matter; hammerscale
Environmental	Charred plant remains: undet. cerealia
Interpretative date	AD160–350

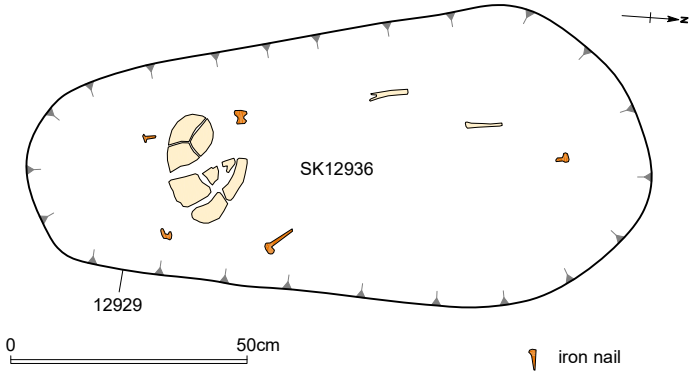


Figure 3.60: Bainesse Cemetery: plan of Grave 102.

GRAVE 103

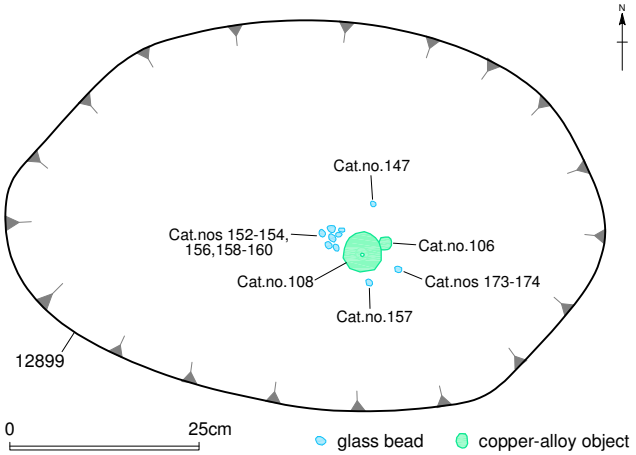


Figure 3.61: Bainesse Cemetery: plan of Grave 103.

The beads and copper-alloy objects were found in close proximity and it seems probable that they were originally strung together or enclosed in a container (or both).

Table 3.97: grave catalogue for Grave 103.

Grave cut 12899	
Orientation	E-W
Max. dimensions	L: 0.83m, W:0.56m, D: 0.39m
Associated contexts	Grave fill 12900
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. nos 131–134 and 146–180 beads x39; Cat. no. 108 copper-alloy disc; Cat. no. 106 copper-alloy *bulla* amulet (1st-4th century AD); Cat. no. 107 copper-alloy pendant? fragments (not on plan)
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD100–400

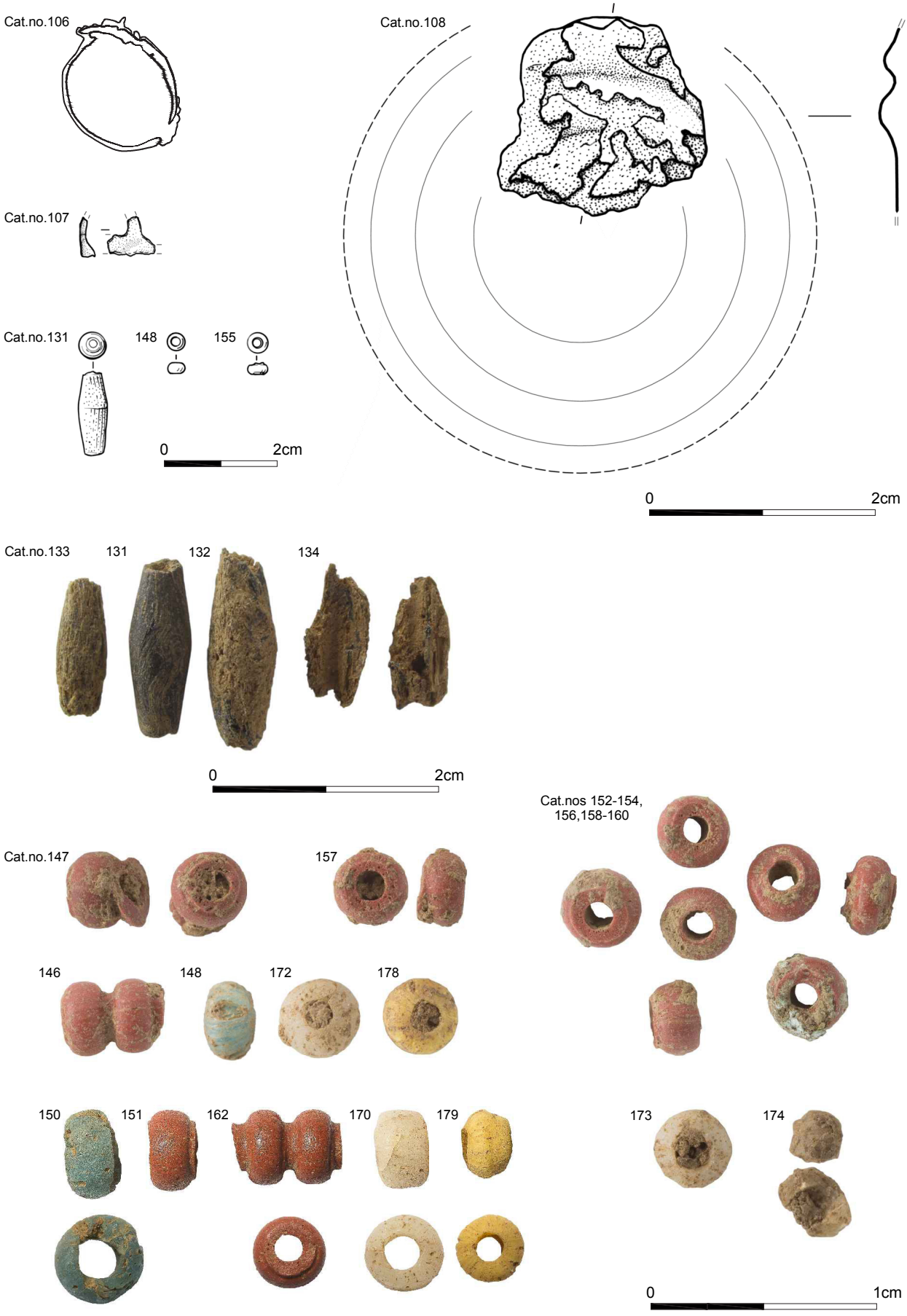


Figure 3.62: Bainesse Cemetery: part of the grave goods assemblage from Grave 103. Note that Cat. no. 106 is presented in cross-section.

GRAVE 104

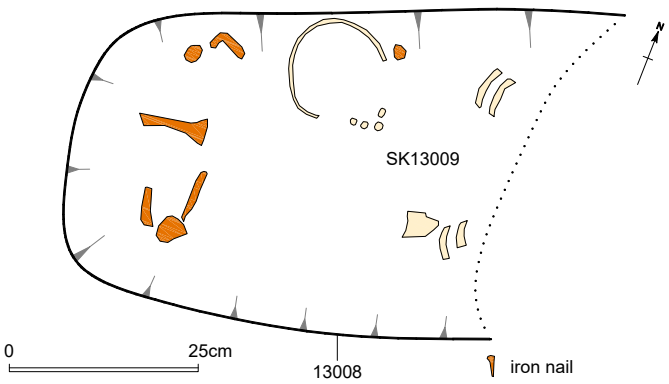


Figure 3.63: Bainesse Cemetery: plan of Grave 104.

The incomplete coffin in this grave contained at least four nails, suggesting planks that were c.30mm thick.

Table 3.98: grave catalogue for Grave 104.

Grave cut 13008	
Orientation	ENE-WSW
Max. dimensions	L: >0.75m, W: 0.42m, D: 0.31m
Associated contexts	Grave fill 13010
Skeleton 13009	
Orientation	Head to WSW
Posture	Supine; head facing left
Arm position	-
Sex	-
Age	18–25
Completeness	5%
Preservation	Poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	RF11325–6, 11329–33 iron nails x4 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Triticum spelta* (spelt); undet. cerealia
Interpretative date	AD80–400

GRAVE 105

Table 3.99: grave catalogue for Grave 105.

Grave cut 13025	
Orientation	E-W
Max. dimensions	L: 1.70m, W: 0.70m, D: 0.63m
Associated contexts	Grave fill 13026
Skeleton: none	
Grave contents: none	
Interpretative date	AD80–360

GRAVE 106

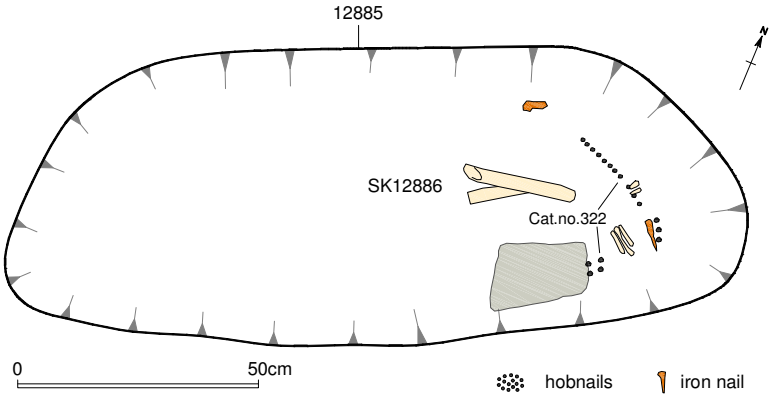


Figure 3.64: Bainesse Cemetery: plan of Grave 106.

The incomplete coffin in this grave contained at least eight nails, suggestive of 35mm thick planks. The individual was wearing nailed footwear containing a minimum of 111 hobnails. Many of the hobnails were retrieved from a soil sample taken from around the feet and are thus not illustrated on the plan.

Table 3.100: grave catalogue for Grave 106.

Grave cut 12885	
Orientation	ENE-WSW
Max. dimensions	L: 1.62m, W: 0.60m, D: 0.40m
Associated contexts	Grave fill 12887
Skeleton 12886	
Orientation	Head to WSW
Posture	Supine; lower legs extended, crossed left over right, femora not present
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD145–151 (0.5%), cal AD170–194 (2.7%), cal AD211–358 (90.4%), cal AD365–380 (1.8%) (1763±29BP, SUERC-72990/GU43676)
	cal AD235–400
Grave contents	
Coffin	RF11231, RF11233–9, RF11249–50 iron nails x8 (minimum)
Ceramic vessel	-
Grave goods	Cat. no. 322 nailed footwear represented by hobnails x111 (minimum)
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD235–400

GRAVE 107

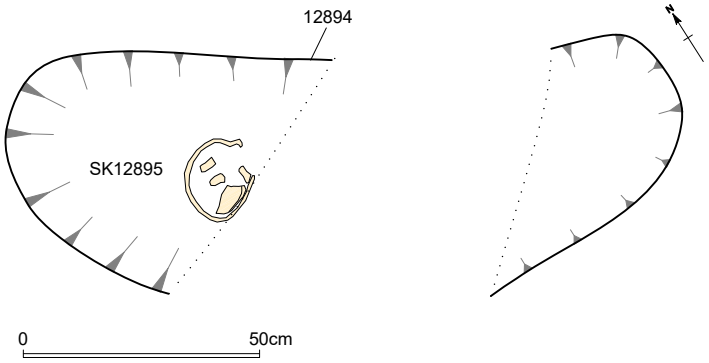


Figure 3.65: Bainesse Cemetery: plan of Grave 107.

Table 3.101: grave catalogue for Grave 107.

Grave cut 12894	
Orientation	ESE-WNW
Max. dimensions	L: 1.44m, W: 0.51m, D: 0.35m
Associated contexts	Grave fill 12896
Skeleton 12895	
Orientation	Head to WNW
Posture	Supine; head facing left
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–380

GRAVE 108

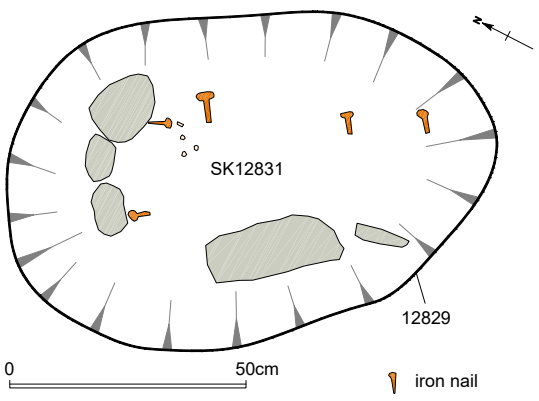


Figure 3.66: Bainesse Cemetery: plan of Grave 108.

Table 3.102: grave catalogue for Grave 108.

Grave cut 12829	
Orientation	SE-NW
Max. dimensions	L: 1.05m, W: 0.70m, D: 0.50m
Associated contexts	Grave fill 12830
Skeleton 12831	
Orientation	Head to NW
Posture	-
Arm position	-
Sex	-
Age	3–7
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	RF11179–85, RF11192–7 iron nails x8 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD245–400

GRAVE 110

Table 3.103: grave catalogue for Grave 110.

Grave cut 12932	
Orientation	NE-SW
Max. dimensions	L: 1.80m, W: 1.02m, D: 0.52m
Associated contexts	Secondary grave fill 12931; primary grave fill 12933
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12931: magnetic matter; hammerscale
Environmental	Context 12931: charred plant remains: *Triticum aestivum* (bread wheat)
Interpretative date	-

GRAVE 111

Table 3.104: grave catalogue for Grave 111.

Grave cut 13054	
Orientation	SE-NW
Max. dimensions	L: 1.30m, W: 0.56m, D: 0.28m
Associated contexts	Grave fill 13053
Skeleton: none	
Grave contents: none	

GRAVE 112

Table 3.105: grave catalogue for Grave 112.

Grave cut 12893	
Orientation	SE-NW
Max. dimensions	L: 1.34m, W: >0.68m, D: 0.58m
Associated contexts	Secondary grave fill 12891; primary grave fill 12892
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12891: magnetic matter; hammerscale; chert debitage x1
Environmental	-
Interpretative date	-

GRAVE 113

Table 3.106: grave catalogue for Grave 113.

Grave cut 12423	
Orientation	SE-NW
Max. dimensions	L: 1.50m, W: 0.80m, D: 0.18m
Associated contexts	Grave fill 12422
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric NV1); flint debitage x2; hammerscale; disarticulated human bone; cremated human bone
Environmental	-
Interpretative date	-

GRAVE 115

Although no skeletal remains were recorded on site, six teeth were retrieved from a sample of the fill and were catalogued as belonging to an adult of at least 18 years of age. In addition, Grave fill **12405** included cremated human bone.

Table 3.107: grave catalogue for Grave 115.

Grave cut 12404	
Orientation	ESE-WNW
Max. dimensions	L: 1.38m, W: 0.52m, D: 0.18m
Associated contexts	Grave fill 12405
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cat. no. 345 hobnails x10; iron nail x1; cremated human bone
Environmental	Charcoal: *Alnus* (alder):
	Charred plant remains: Poaceae undet. 2–5mm
Interpretative date	-

GRAVE 116

Table 3.108: grave catalogue for Grave 116.

Grave cut 12951	
Orientation	SE-NW
Max. dimensions	L: 1.60m, W: 0.92m, D: 0.55m
Associated contexts	Grave fill 12950
Skeleton: none	
Grave contents: none	

GRAVE 117

Table 3.109: grave catalogue for Grave 117.

Grave cut 12713	
Orientation	ESE-WNW
Max. dimensions	L: 1.16m, W: 0.75m, D: 0.20m
Associated contexts	Grave fill 12714
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Flint debitage x8; magnetic matter
Environmental	-
Interpretative date	AD245–400

GRAVE 118

Table 3.110: grave catalogue for Grave 118.

Grave cut 12745	
Orientation	N-S
Max. dimensions	L: >1.50m, W: 0.60m, D: 0.20m
Associated contexts	Grave fill 12744
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD245–400

GRAVE 119

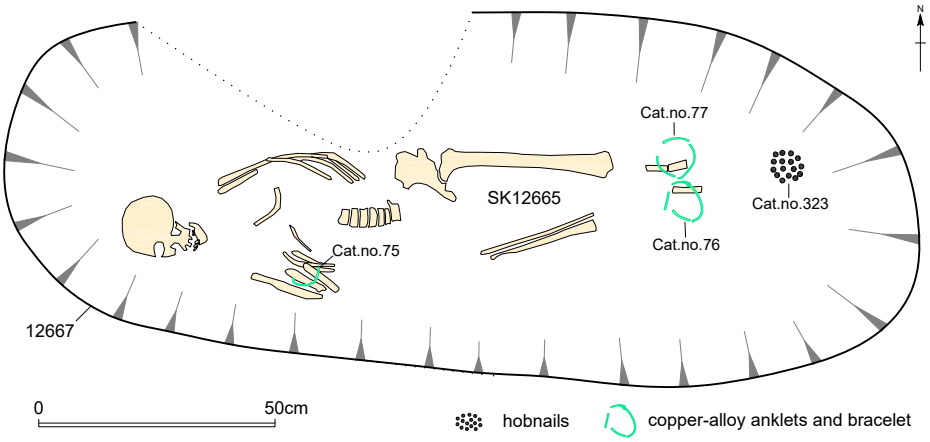


Figure 3.67: Bainesse Cemetery: plan of Grave 119.

The left arm of Skeleton 12665 had been removed by Grave **120**. The individual was wearing nailed footwear consisting of a minimum of 59 hobnails.

Table 3.111: grave catalogue for Grave 119.

Grave cut 12667	
Orientation	E-W
Max. dimensions	L: 1.95m, W: 0.75m, D: 0.40m
Associated contexts	Grave fill 12666
Skeleton 12665	
Orientation	Head to W
Posture	Supine; head tilted slightly forward; legs extended, feet together
Arm position	Right arm flexed at elbow, hand on torso
Sex	Female
Age	26–35
Completeness	35%
Preservation	Very poor
Dental pathology	AMTL, calculus, caries, DEH, abscess
Pathology	Lamellar bone on right tibia fragments and shaft of left femur
Stature (mm)	-
C14 date	cal AD86–253 (94.0%), cal AD303–314 (1.4%) (1829±32BP, SUERC-67697/GU41055)
	cal AD165-350
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 323 nailed footwear represented by x59 hobnails; Cat. no. 75 copper-alloy bracelet found on the right arm (4th century AD); Cat. no. 76 copper-alloy anklet found on the right leg; Cat. no. 77 copper-alloy anklet found on left leg; Cat. no. 78 additional copper-alloy bracelet/ anklet fragments
Other finds	Disarticulated human bone; pottery sherd x2 (Fabric OA); flint debitage fragment x1; magnetic matter; hammerscale
Environmental	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD275–350

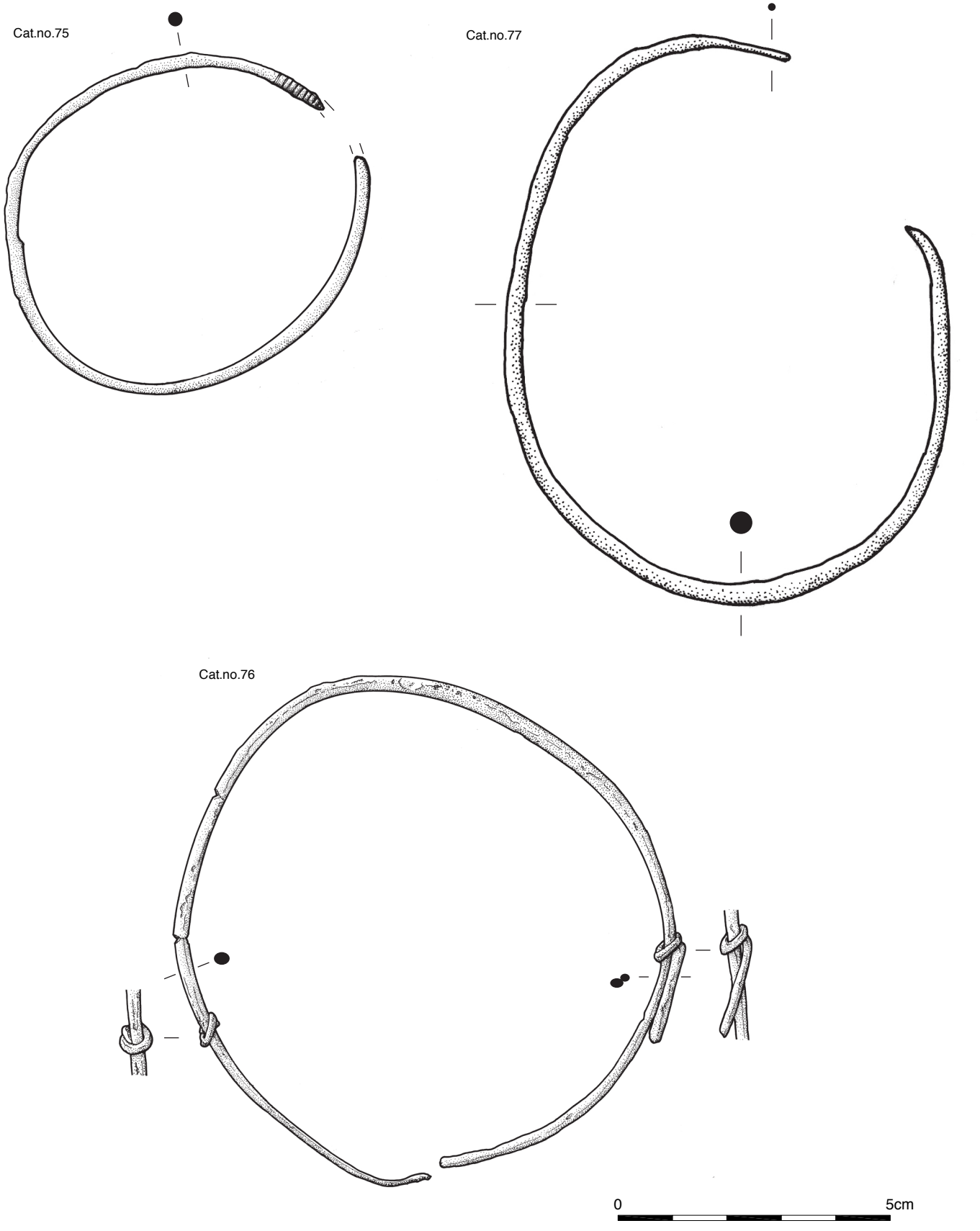


Figure 3.68: Bainesse Cemetery: copper-alloy bracelet and anklets from Grave 119.

GRAVE 120

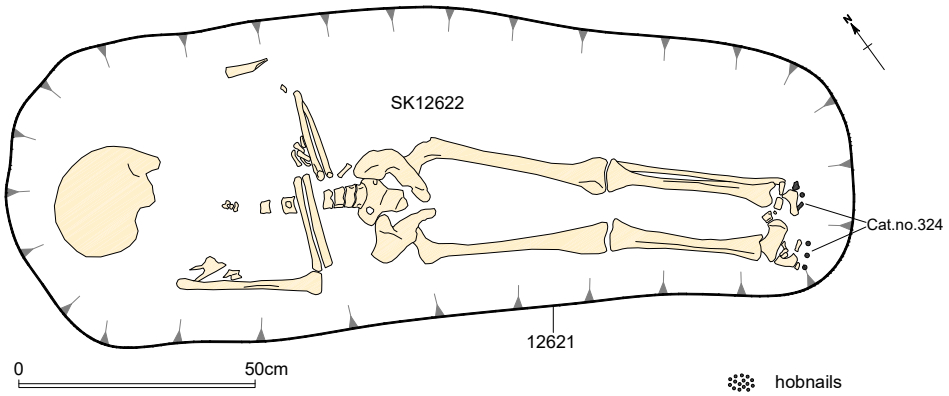


Figure 3.69: Bainesse Cemetery: plan of Grave 120.

The individual was wearing nailed footwear containing a minimum of 76 hobnails when it was interred. Many of the hobnails were retrieved from a soil sample taken from around the feet and are thus not illustrated on the plan.

Table 3.112: grave catalogue for Grave 120.

Grave cut 12621	
Orientation	SE-NW
Max. dimensions	L: 1.85m, W:0.75m, D: 0.53m
Associated contexts	Grave fill 12620
Skeleton 12622	
Orientation	Head to NW
Posture	Supine; head face up; legs extended, parallel
Arm position	Flexed at elbows, hands on torso
Sex	Male
Age	26–35
Completeness	50%
Preservation	Very poor
Dental pathology	Caries
Pathology	Hypervascularity on ectocranial surface of skull fragments
Stature (mm)	-
C14 date	cal AD245–394 (95.4%) (1719±32BP, SUERC-67695/GU41053)
	cal AD255–425
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 324 nailed footwear represented by x76 hobnails RF10286 (left), RF10287 (right), RF13689 (unlocated)
Other finds	Cremated human bone; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat); undet. cerealia; perianth undet.; *Plantago lanceolata* (ribwort plantain); tuber; *Astragalus* / *Medicago* / *Trifolium* (legume); Fabaceae undet.; Poaceae undet. <2 mm; Lamiaceae undet.; Apiaceae undet.
Interpretative date	AD255–425

GRAVE 121

Table 3.113: grave catalogue for Grave 121.

Grave cut 12697	
Orientation	SE-NW
Max. dimensions	L: >0.80m, W: 0.67m, D: 0.47m
Associated contexts	Grave fill 12695
Skeleton 12696	
Orientation	Head to SE
Posture	-
Arm position	-
Sex	-
Age	1–6
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	
Interpretative date	AD80–350

GRAVE 122

Table 3.114: grave catalogue for Grave 122.

Grave cut 13043	
Orientation	N-S
Max. dimensions	L: 1.26m, W: >0.40m, D: 0.42m
Associated contexts	Grave fill 13044
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF11368 and RF11369: iron nails x2; Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–385

GRAVE 123

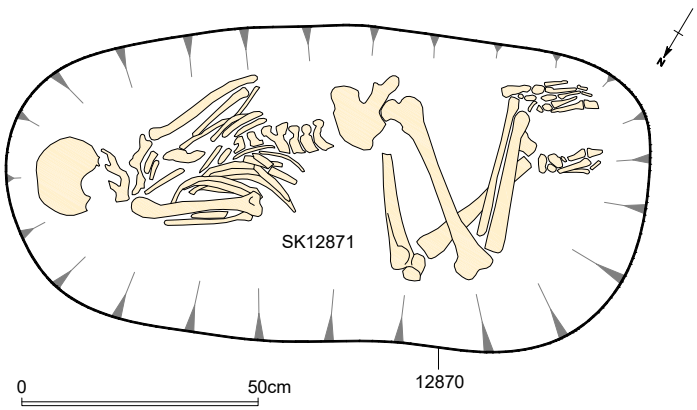


Figure 3.70: Bainesse Cemetery: plan of Grave 123.

Table 3.115: grave catalogue for Grave 123.

Grave cut 12870	
Orientation	ENE-WSW
Max. dimensions	L: 1.38m, W: 0.70m, D: 0.52m
Associated contexts	Grave fill 12872
Skeleton 12871	
Orientation	Head to ENE
Posture	Lying on right side; head face down; legs flexed at hip and knee to the individual's left
Arm position	Both arms tightly flexed at elbow, right arm underneath torso
Sex	Male
Age	36–45
Completeness	95%
Preservation	Good
Dental pathology	Calculus, AMTL, periodontal disease, abscess
Pathology	Osteoarthritis on left mandibular condyle, proximal femora, distal right femur and patella; cyst on both lunate articulation with triquetral, mirrored in triquetral, developmental defect: non-osseous union of carpals or DJC; small spiky bony ridge on superior orbital rim; Schmorl's nodes; DJC in left mandible, femora, right patella, and spine; bilateral cribra orbitalia; additional sacral vertebra, woven bone on maxilla
Stature (mm)	1618±32.7
C14 date	cal AD244–391 (95.4%) (1723±32BP, SUERC-67705/GU41061)
	cal AD245–385
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	AD245–385

GRAVE 124

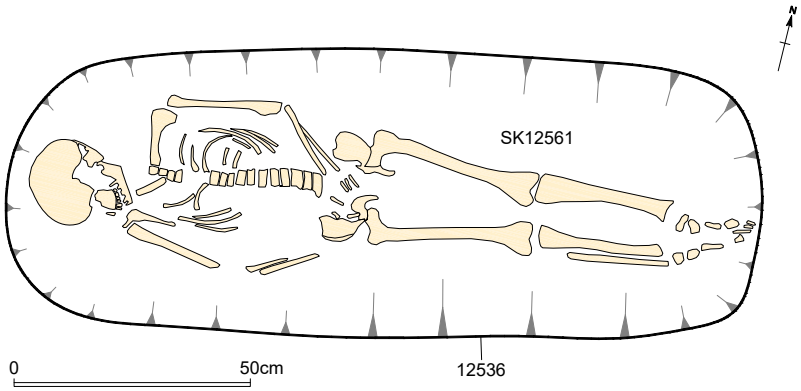


Figure 3.71: Bainesse Cemetery: plan of Grave 124.

Primary grave fill **12538** contained two right femora, two left femora, a right tibia, a left fibula, and fragments of pelvis. These bones are likely to have derived from Graves **125** and **130**, which had both been truncated by Grave **124**.

Table 3.116: grave catalogue for Grave 124.

Grave cut 12536	
Orientation	ENE-WSW
Max. dimensions	L: 1.70m, W: 0.85m, D: 0.69m
Associated contexts	Secondary grave fill 12537; primary grave fill 12538
Skeleton 12561	
Orientation	Head to WSW
Posture	Supine; head facing right; legs extended, parallel
Arm position	Arms slightly flexed at elbow, hands in pelvis
Sex	-
Age	14–16
Completeness	95%
Preservation	Good
Dental pathology	Calculus, DEH, periodontal disease
Pathology	Woven bone on the medial side of the left mandibular ramus; lamellar and woven bone on the articular eminence of the temporal bone bilaterally; increased porosity of two left rib ends; lamellar bone on both tibial shafts; lamellar bone on femora, anterior mid-shaft of right ulna
Stature (mm)	-
C14 date	cal AD251–403 (95.4%) (1705±32BP, SUERC-67693/GU41051)
	cal AD315–420
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12538: disarticulated human bone (including several long bones); flint flake x1; flint debitage x1; glass chip fragments x2; fired clay
Environmental	Context 12538: charred plant remains: Poaceae undet. 2–5mm; *Polygonum aviculare* (common knotgrass); *Carex* sp. (sedge)
Interpretative date	AD315–420

GRAVE 125

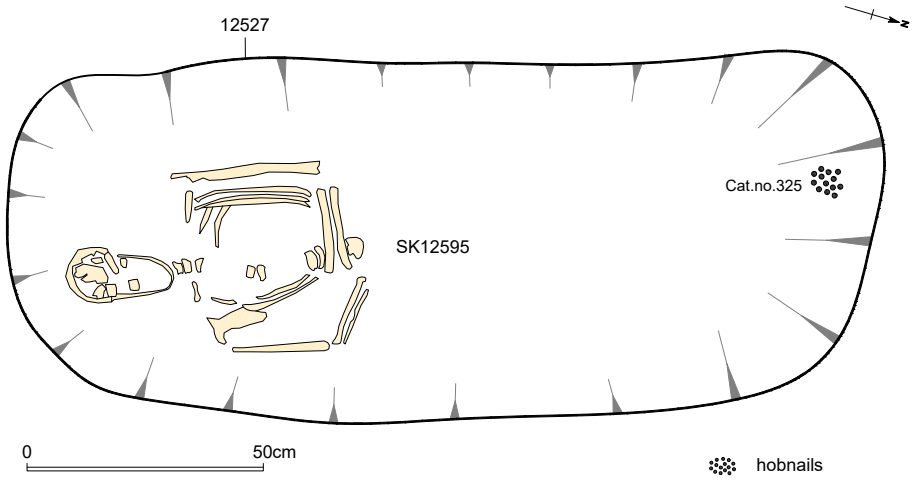


Figure 3.72: Bainesse Cemetery: plan of Grave 125.

The lower half of Skeleton 12595 was completely truncated by Grave **124**. A fused mass containing a minimum of 52 hobnails survived against the north end of the grave and indicated that the skeleton was wearing nailed footwear.

Table 3.117: grave catalogue for Grave 125.

Grave cut 12527	
Orientation	SSE-NNW
Max. dimensions	L: 1.82m, W: 0.78m, D: 0.33m
Associated contexts	Secondary grave fill 12528; primary grave fill 12529
Skeleton 12595	
Orientation	Head to SSE
Posture	Supine; head face up
Arm position	Both arms flexed at elbow, left hand over torso, right hand in pelvis
Sex	-
Age	18+
Completeness	15%
Preservation	Poor
Dental pathology	AMTL, calculus, caries
Pathology	DJC in right proximal ulna; DJC in lumbar spine and occipital condyles
Stature (mm)	-
C14 date	cal AD90–101 (1.3%), cal AD123–255 (92.2%), cal AD301–316 (1.9%) (1824±29BP, SUERC-72980/GU43666)
	cal AD230-360
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Context 12529: Cat. no. 325 nailed footwear represented by x51 (minimum) hobnails
Other finds	Context 12528: cremated human bone; unidentified burnt bone; hammerscale; hobnails x2; glass fragment x1
	Context 12529: pottery sherd x1 (Fabric GRB50); cremated human bone; magnetic matter; hammerscale
Environmental	Context 12528: charcoal: *Prunus* (stone fruit)
	Context 12529: charcoal: undet. hardwood
	Context 12529: charred plant remains: Poaceae undet. 2–5mm; *Plantago lanceolata* (ribwort plantain); Poaceae undet. >5 mm
Interpretative date	AD230–360

GRAVE 126

Table 3.118: grave catalogue for Grave 126.

Grave cut 13002	
Orientation	ENE-WSW
Max. dimensions	L: 1.35m, W: 0.64m, D: 0.57m
Associated contexts	Grave fill 13003
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

GRAVE 128

Table 3.119: grave catalogue for Grave 128.

Grave cut 12808	
Orientation	ENE-WSW
Max. dimensions	L: 1.78m, W: 0.75m, D: 0.76m
Associated contexts	Grave fill 12807
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	-

GRAVE 129

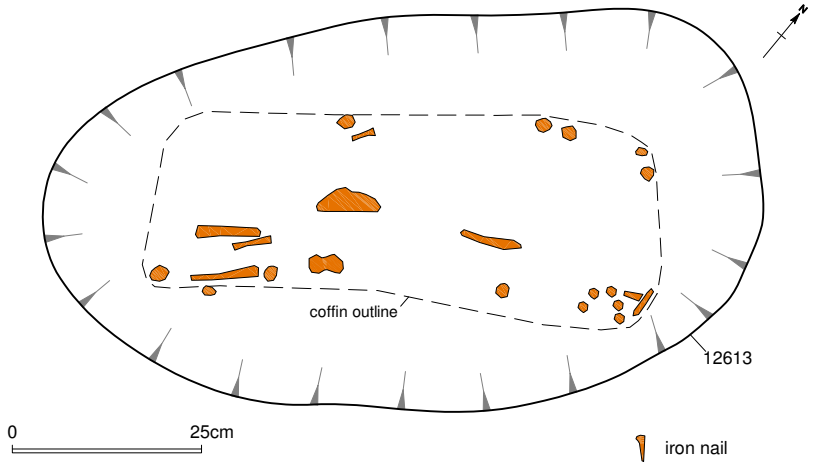


Figure 3.73: Bainesse Cemetery: plan of Grave 129.

The coffin within this grave measured approximately 0.67m by 0.28m by at least 0.12m high and contained a minimum of 11 nails.

Table 3.120: grave catalogue for Grave 129.

Grave cut 12613	
Orientation	NE-SW
Max. dimensions	L: 0.95m, W: 0.52m, D: 0.12m
Associated contexts	Coffin impression 12611; coffin fill 12612; grave fill 12614
Skeleton: none	
Grave contents	
Coffin	RF10228–42, RF10244 iron nails x11 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Context 12612: charred plant remains: *Hordeum* (hulled barley); Poaceae undet. 2–5mm;
	Context 12614: charred plant remains: Fabaceae undet.; undet. cerealia
Interpretative date	AD230–400

GRAVE 130

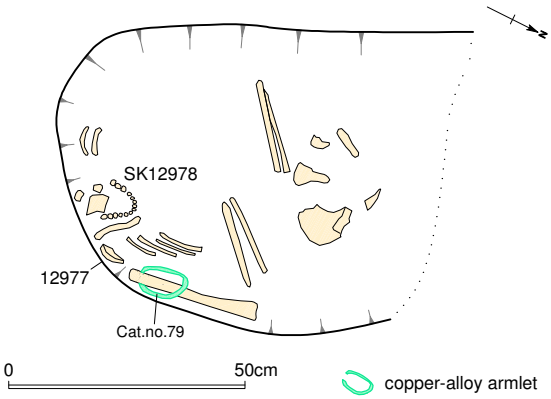


Figure 3.74: Bainesse Cemetery: plan of Grave 130.

Table 3.121: grave catalogue for Grave 130.

Grave cut 12977	
Orientation	SSE-NNW
Max. dimensions	L: >0.82m, W: 0.62m, D: 0.38m
Associated contexts	Grave fill 12979
Skeleton 12978	
Orientation	Head to SSE
Posture	Supine; head face up
Arm position	Right flexed over thorax, left flexed over abdomen
Sex	-
Age	18+
Completeness	15%
Preservation	Very poor
Dental pathology	Calculus, DEH
Pathology	Lamellar bone on right mandible
Stature (mm)	-
C14 date	cal AD142–158 (1.8%), cal AD166–196 (4.2%), cal AD210–340 (89.3%) (1772±25BP, SUERC-77044/GU46287)
	cal AD210–335
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 79 copper-alloy armlet around right humerus
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: *Betula* (birch)
Interpretative date	AD210–335

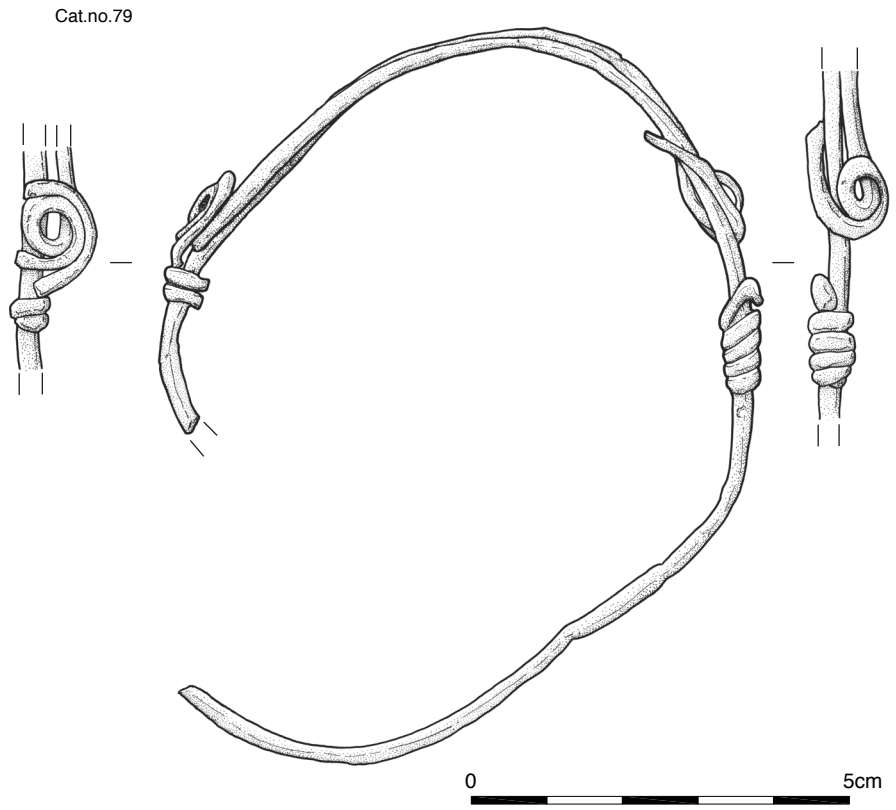


Figure 3.75: Bainesse Cemetery: copper-alloy armlet from Grave 130.

GRAVE 131

Table 3.122: grave catalogue for Grave 131.

Grave cut 12983	
Orientation	N-S
Max. dimensions	L: 1.15m, W: 0.78m, D: 0.70m
Associated contexts	Grave fill 12984
Skeleton: none	
Grave contents: none	

GRAVE 132

Table 3.123: grave catalogue for Grave 132.

Grave cut 12971	
Orientation	ENE-WSW
Max. dimensions	L: 1.38m, W: 0.72m, D: 0.80m
Associated contexts	Grave fill 12972
Skeleton: none	
Grave contents: none	

GRAVE 133

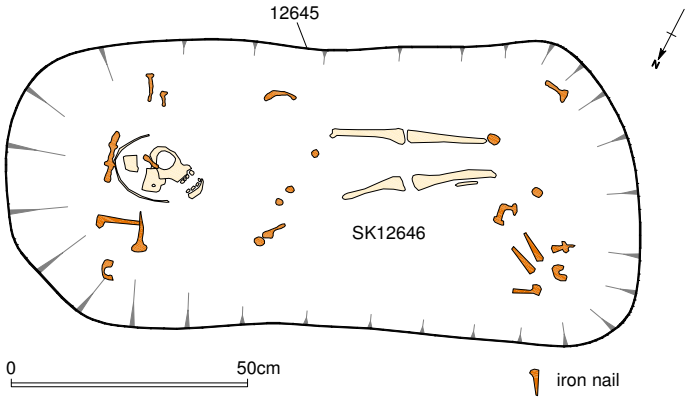


Figure 3.76: Bainesse Cemetery: plan of Grave 133.

The coffin in this grave measured approximately 1.00m by 0.40m by at least 0.34m high and contained a minimum of 34 nails, which were suggestive of 20mm thick planks.

Table 3.124: grave catalogue for Grave 133.

Grave cut 12645	
Orientation	ENE-WSW
Max. dimensions	L: 1.35m, W: 0.65m, D: 0.83m
Associated contexts	Coffin fill 12647; grave fill 12659
Skeleton 12646	
Orientation	Head to ENE
Posture	Supine; head tilted left; legs extended, parallel
Arm position	-
Sex	-
Age	2–4
Completeness	35%
Preservation	Moderate
Dental pathology	-
Pathology	Woven bone at deciduous right first and second molar sockets of maxilla, on inferior surface of right orbit; cribra orbitalia
Stature (mm)	-
C14 date	cal AD83–232 (95.4%) (1856±29BP, SUERC-72987/GU43671)
	cal AD160–340
Grave contents	
Coffin	Context 12647: RF10263, RF10265–74, RF10277–82, RF10288–304 iron nails x34 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Context 12647: charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD160–340

GRAVE 134

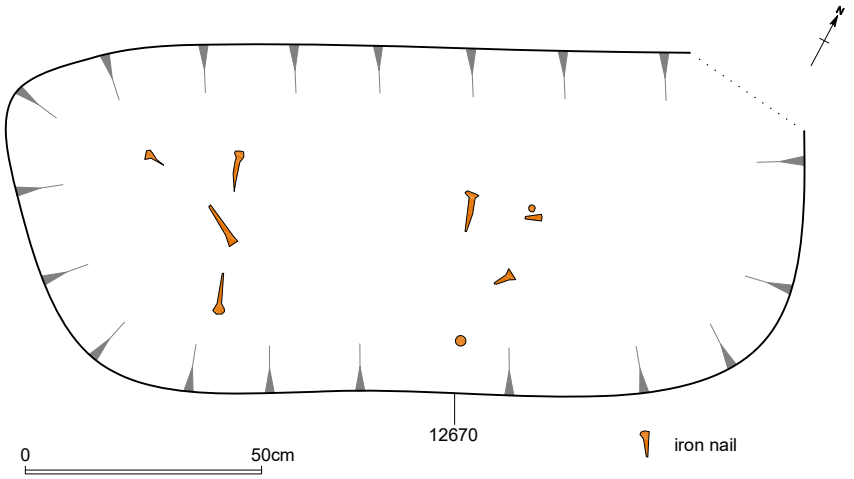


Figure 3.77: Bainesse Cemetery: plan of Grave 134.

It was difficult to accurately define the extent of this grave due to the truncation caused by the mass of intercutting burials above it.

Table 3.125: grave catalogue for Grave 134.

Grave cut 12670	
Orientation	NE-SW
Max. dimensions	L: >1.50m, W: ?0.90m, D: 0.40m
Associated contexts	Grave fill 12668, coffin fill 12671
Skeleton: none	
Grave contents	
Coffin	Context 12671: RF10275–6, RF10283–5, RF10308–11 iron nails x8 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12671: fired clay; magnetic matter; hammerscale
Environmental	Context 12671: charcoal: undet. hardwood
Interpretative date	AD80–400

GRAVE 135

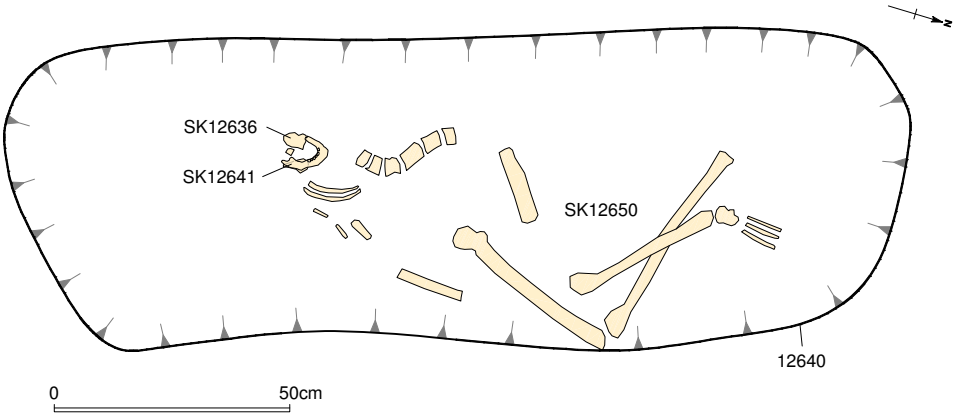


Figure 3.78: Bainesse Cemetery: plan of Grave 135.

Skeleton 12641 (mandible only) was thought to be the only surviving bone and was excavated first. Subsequently, further remains were uncovered and designated as Skeleton 12650, although it is almost certain that only one individual was represented. Subsequent collation of the excavation results, in conjunction with the osteological analysis, indicated that it was most likely that the bone recorded as Skeleton 12636 in Grave **136** was also part of this individual. The osteological analysis also identified nine juvenile teeth from a sample of fill **12642**, which were catalogued separately.

Table 3.126: grave catalogue for Grave 135.

Grave cut 12640	
Orientation	SSE-NNW
Max. dimensions	L: c1.50m, W: c.1.00m, D: 0.45m (edges not precisely defined)
Associated contexts	Grave fill 12642
Skeleton 12641 (135b)	
Orientation	Head to SSE (mandible only—almost certainly part of SK12650)
Posture	-
Arm position	-
Sex	-
Age	6+
Completeness	<5%
Preservation	
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD263–276 (1.5%), cal AD329–435 (81.7%), cal AD455–470 (1.6%), cal AD487–534 (10.5%) (1649±32BP, SUERC-67696/GU41054)
	cal AD345–465
Skeleton 12650 (135a)	
Orientation	Head to SSE
Posture	Torso tilted right; spine twisted; legs flexed at hip and knee to individual's right side, left crossed tibia over right
Arm position	Right humerus slightly extended, left not present
Sex	-
Age	26–35
Completeness	40%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	Lamellar bone on tibial shaft fragments bilaterally; DJC in thoracic spine
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric GRA5); magnetic matter; hammerscale
Environmental	Charred plant remains: Poaceae undet. 2–5mm
Interpretative date	AD345–465

GRAVE 136

Grave **136** was originally recorded as a burial in its own right, but subsequent collation of the excavation results, in conjunction with the osteological analysis, indicated that it was most likely part of Grave **135**.

Table 3.127: grave catalogue for Grave 136.

Grave cut 12634	
Orientation	SSE-NNW
Max. dimensions	L: 1.90m, W: 0.54m, D: 0.12m
Associated contexts	Grave fill 12635
Skeleton 12636	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	-
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; magnetic matter
Environmental	-
Interpretative date	AD345–400

GRAVE 137

Table 3.128: grave catalogue for Grave 137.

Grave cut 12725	
Orientation	SE-NW
Max. dimensions	L: 2.00m, W: 0.78m, D: 0.12m
Associated contexts	Grave fill 12724
Skeleton 13723	
Orientation	Head to NW?
Posture	1 partial ?femur only, parallel with grave cut
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	
C14 date	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone
Environmental	-
Interpretative date	-

GRAVE 138

Grave **138** was almost completely truncated by Grave **139**, so that only one corner survived.

Table 3.129: grave catalogue for Grave 138.

Grave cut 12791	
Orientation	Either E-W or N-S
Max. dimensions	L?: >0.40m, W?:> 0.30m, D: 0.15m
Associated contexts	Grave fill 12790
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone
Environmental	-
Interpretative date	AD80–400

GRAVE 139

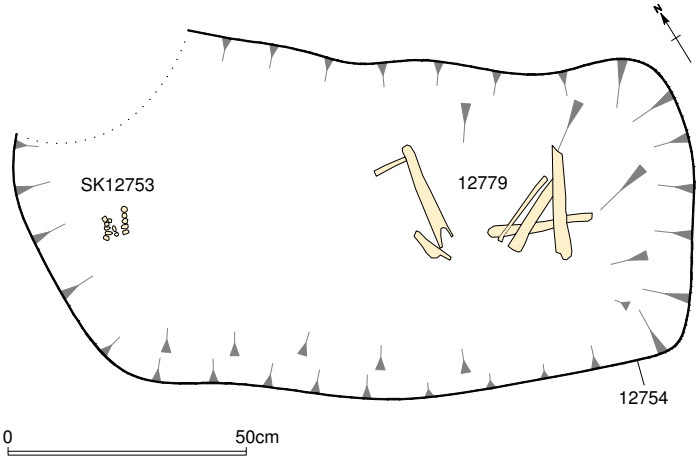


Figure 3.79: Bainesse Cemetery: plan of Grave 139.

Disarticulated human bone **12779** was found in the south-east half of the grave and probably derived from Grave **138**, which had been almost completely truncated by Grave **139**.

Table 3.130: grave catalogue for Grave 139.

Grave cut 12754	
Orientation	ESE-WNW
Max. dimensions	L: 1.44m, W: 0.70m, D: 0.30m
Associated contexts	Grave fill 12752; disarticulated human bone 12779
Skeleton 12753	
Orientation	Head to WNW
Posture	Supine; head face up
Arm position	-
Sex	-
Age	18+
Completeness	<5%–dentition only
Preservation	Extremely poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12752: disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD245–400

GRAVE 140

Table 3.131: grave catalogue for Grave 140.

Grave cut 12995	
Orientation	E-W
Max. dimensions	L: 2.40m, W: 1.00m, D: 0.61m
Associated contexts	Coffin fill 12997; grave fill 12998
Skeleton 12996	
Orientation	Head to W
Posture	Supine; head face up; legs extended, knees and feet together
Arm position	Flexed at elbows, hands over abdomen
Sex	Male
Age	26–35
Completeness	90%
Preservation	Moderate
Dental pathology	Calculus, caries, DEH
Pathology	Exostosis in left sinus; small hole in floor of right sinus – likely developmental; woven bone on distal shaft of right fibula, on distal right tibia; osteoarthritis on right femoral head; woven bone on calcanei, on visceral surface of central rib fragment; DJC in spine C1 – C3, proximal left femur, right glenoid; irregular surface of palate suggests inflammation; Schmorl's nodes on 8 thoracic and 3 lumbar vertebrae; bilateral cribra orbitalia
Stature (mm)	1607±32.7
C14 date	cal AD228–388 (95.4%) (1743±32BP, SUERC-67706/GU41062)
	cal AD245–380
Grave contents	
Coffin	Context 12997: RF11334–63, RF11370–3, RF11724 iron nails x27 (minimum)
	Context 12998: RF11361–3 iron nail x1
Ceramic vessel	-
Grave goods	-
Other finds	Context 12997: magnetic matter; hammerscale
	Context 12998: cremated human bone; unidentified burnt bone
Environmental	Context 12997: charred plant remains: undet. cerealia
Interpretative date	AD245–380

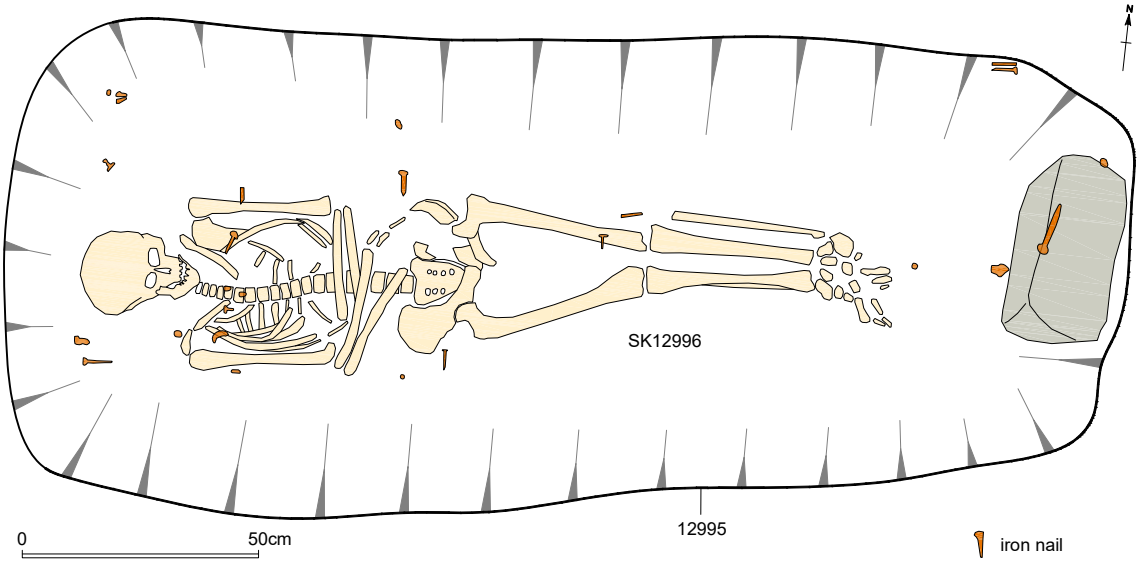


Figure 3.80: Bainesse Cemetery: plan of Grave 140.

The coffin in this grave measured approximately 2.00m by 0.55m by at least 0.32m high and contained at least 34 nails, which were suggestive of 20 and 30mm thick planks. The osteological analysis revealed that Skeleton 12996 had an exceedingly square palate and, although there was no distinct nasal guttering present, this individual is considered to be of African origin.

GRAVE 141

Table 3.132: grave catalogue for Grave 141.

Grave cut 12841	
Orientation	N-S
Max. dimensions	L: >1.65m, W: 0.90m, D: 0.17m
Associated contexts	Grave fill 12843
Skeleton 12842	
Orientation	N/A (disarticulated bones)
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	-
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF11227–8 iron nails x2; pottery sherd x1 (Fabric GRB5)
Environmental	-
Interpretative date	AD330–400

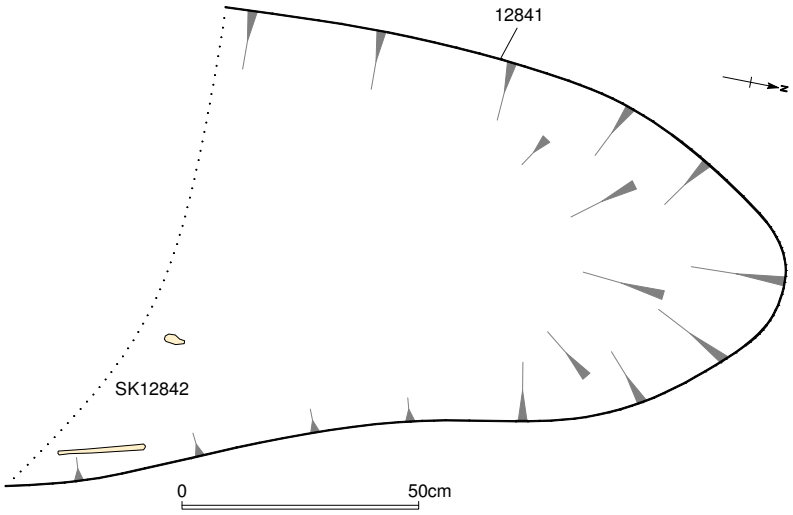


Figure 3.81: Bainesse Cemetery: plan of Grave 141.

GRAVE 142

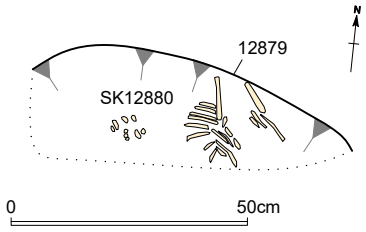


Figure 3.82: Bainesse Cemetery: plan of Grave 142.

Table 3.133: grave catalogue for Grave 142.

Grave cut 12779	
Orientation	ESE-WNW
Max. dimensions	L: >0.7m, W: >0.26m, D: 0.09m
Associated contexts	Grave fill 12881
Skeleton 12880	
Orientation	Head to WNW
Posture	Supine?
Arm position	Insufficient bones present
Sex	-
Age	18+
Completeness	5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD131–260 (80.4%), cal AD280–325 (15.0%) (1801±29BP, SUERC-72967/GU43638)
	cal AD175–330
Grave contents: none	
Interpretative date	AD175–330

GRAVE 143

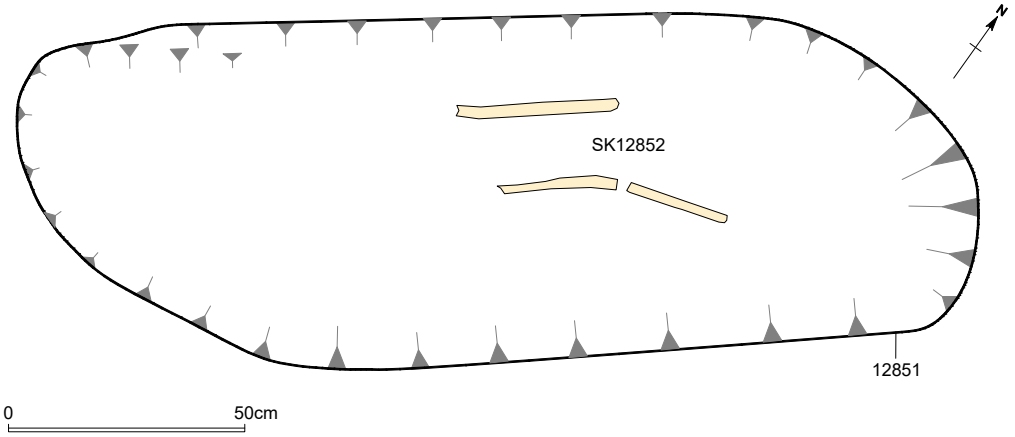


Figure 3.83: Bainesse Cemetery: plan of Grave 143.

Table 3.134: grave catalogue for Grave 143.

Grave cut 12851	
Orientation	ENE-WSW
Max. dimensions	L: 2.05m, W: 0.70m, D: 0.32m
Associated contexts	Grave fill 12583
Skeleton 12852	
Orientation	Head to WSW
Posture	Supine; legs extended, parallel
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD244–394 (95.4%) (1720±33BP, SUERC-75049/GU44912)
	cal AD330–430
Grave contents: none	
Interpretative date	AD330–430

GRAVE 144

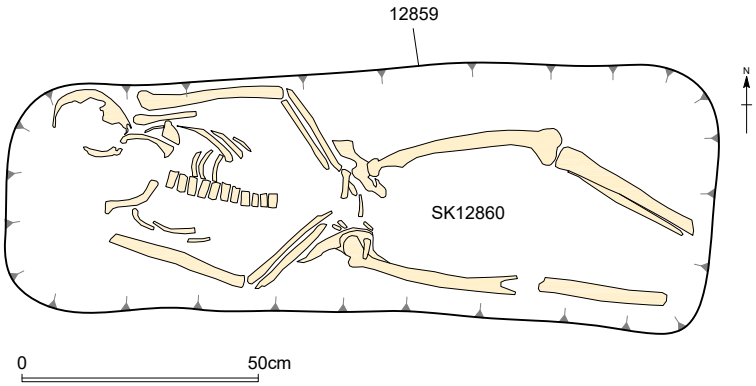


Figure 3.84: Bainesse Cemetery: plan of Grave 144.

Table 3.135: grave catalogue for Grave 144.

Grave cut 12859	
Orientation	E-W
Max. dimensions	L: 1.50m, W: 0.50m, D: 0.55m
Associated contexts	Grave fill 12861
Skeleton 12860	
Orientation	Head to W
Posture	Supine; head face up; right leg extended, left slightly flexed
Arm position	Flexed at elbows, hands in pelvis
Sex	Probable female
Age	26–35
Completeness	60%
Preservation	Poor
Dental pathology	Calculus, periodontal disease
Pathology	C2 has developmental misalignment of left inferior apophyseal facet; mild coxa vara bilaterally; possible sacroiliitis; lamellar bone on lateral left tibia; hypervascularity on occipital and parietal bones
Stature (mm)	1610.5±37.2
C14 date	cal AD244–391 (95.4%) (1724±32BP, SUERC-67704/GU41060)
	cal AD265–410
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
Interpretative date	AD265–410

GRAVE 145

Table 3.136: grave catalogue for Grave 145.

Grave cut: 12882	
Orientation	SE-NW
Max. dimensions	L: 1.55m, W: 0.60m, D: 0.31m
Associated contexts	Grave fill 12884
Skeleton: none	
Grave contents: none	
Interpretative date	AD195–400

GRAVE 146

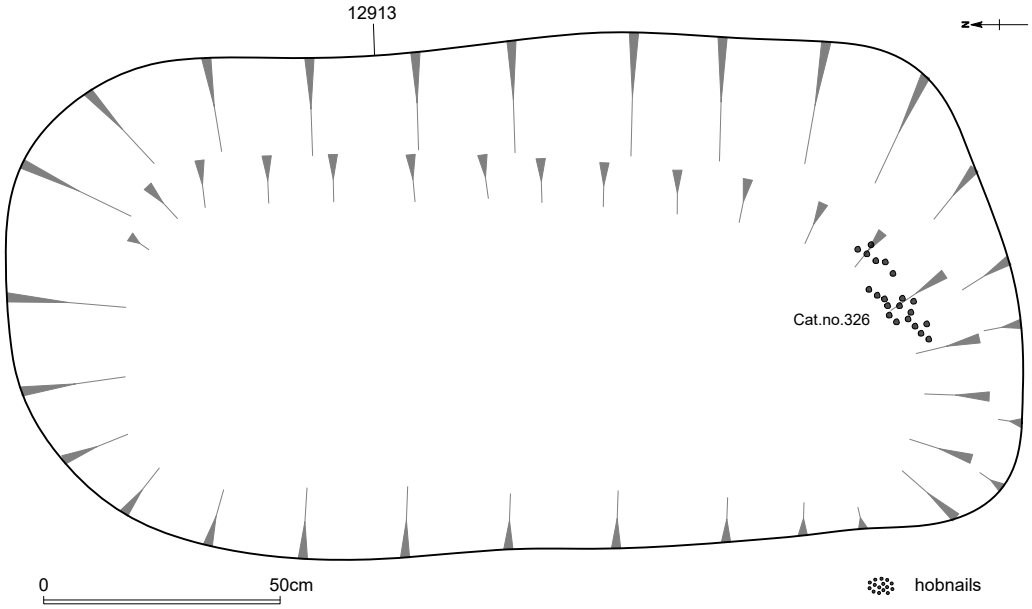


Figure 3.85: Bainesse Cemetery: plan of Grave 146.

Although no skeletal remains were present in this grave, nailed footwear containing a minimum of 65 hobnails was recovered from its southern extent, indicating that this was likely to be the foot end.

Table 3.137: grave catalogue for Grave 146.

Grave cut 12913	
Orientation	N-S
Max. dimensions	L: 2.12m, W: 1.07m, D: 0.64m
Associated contexts	Secondary grave fill 12914; primary grave fill 12915
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 326 nailed footwear represented by x65 hobnails
Other finds	-
Environmental	-
Interpretative date	AD195–390

GRAVE 147

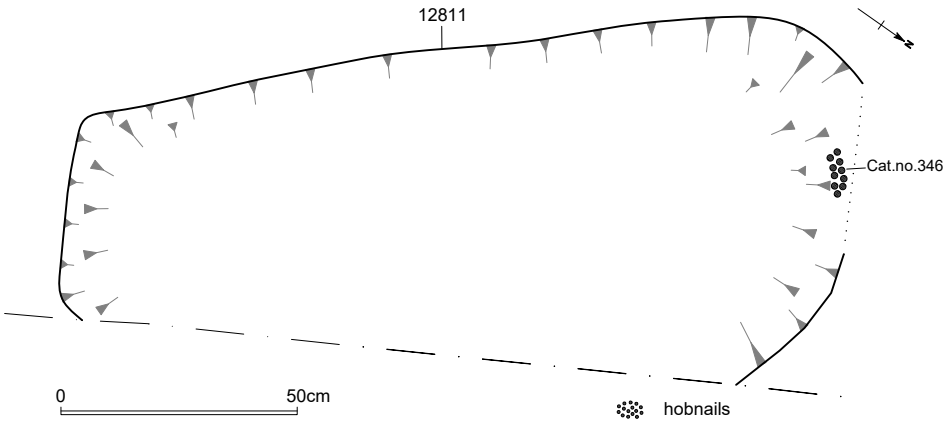


Figure 3.86: Bainesse Cemetery: plan of Grave 147.

Although no skeletal remains were present in this grave, nailed footwear containing a minimum of 15 hobnails was recovered from the north-western extent, indicating that this was likely to be the foot end.

Table 3.138: grave catalogue for Grave 147.

Grave cut 12811	
Orientation	SE-NW
Max. dimensions	L: >1.65m, W: > 0.74m, D: 0.32m
Associated contexts	Grave fill 12812
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 346 possible nailed footwear represented by x15 hobnails
Other finds	-
Environmental	-
Interpretative date	AD80–400

GRAVE 148

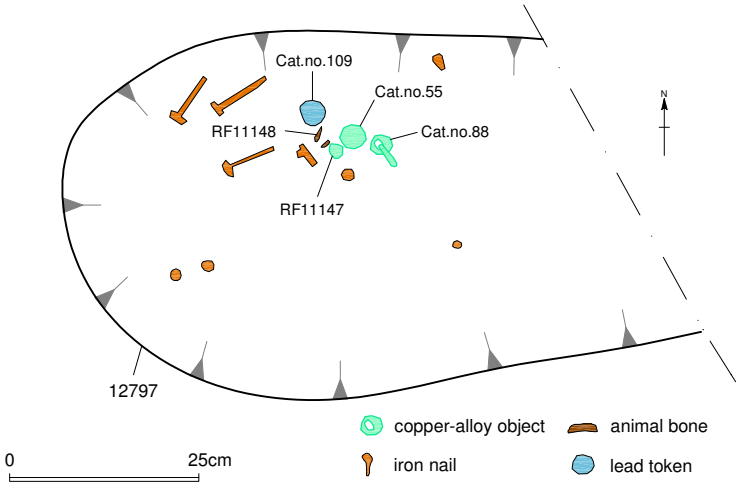


Figure 3.87: Bainesse Cemetery: plan of Grave 148.

The incomplete coffin in this grave contained at least eight nails and comprised 30mm thick planks. The group of catalogued finds were found in close proximity. As the lead disc was unpierced, it appears that they were not strung together and were more likely enclosed in a bag or other receptacle. The copper-alloy fragments (RF11147) were unidentifiable, but their location adjacent to the copper-stained dog/fox tooth (RF11148) suggested that they may have been part of a possible mount.

Table 3.139: grave catalogue for Grave 148.

Grave cut 12797	
Orientation	E-W
Max. dimensions	L: >0.95m, W: 0.49m, D: 0.39m
Associated contexts	Grave fill 12798
Skeleton: none	
Grave contents	
Coffin	RF1156–64 iron nails x8 (minimum)
Ceramic vessel	-
Grave goods	Group of associated artefacts: Cat. no. 55 pierced copper-alloy coin ?Antoninus Pius (AD138–161); Cat. no. 88 linked copper-alloy rings; Cat. no. 109 lead disc; RF11147 copper-alloy fragments; RF11148 copper-stained dog/fox tooth
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD140–400

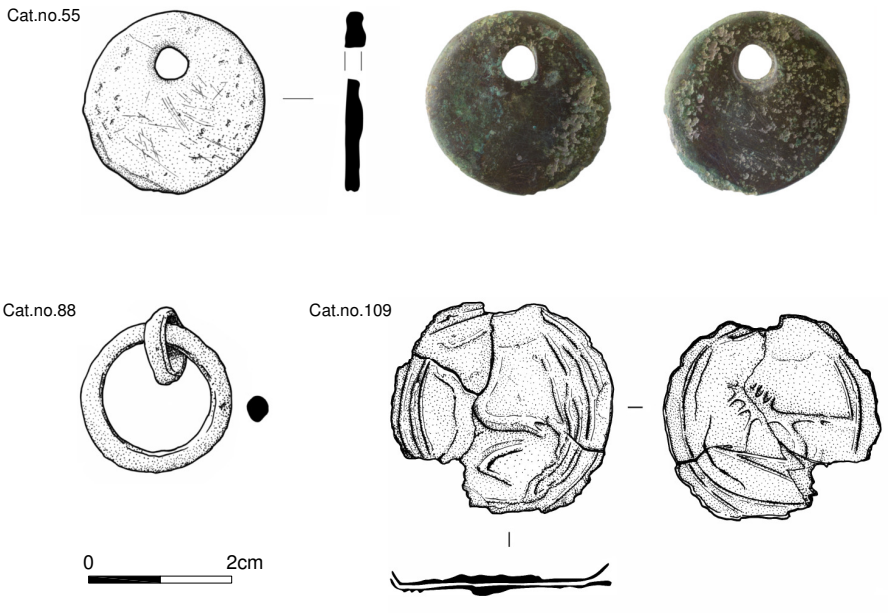


Figure 3.88: Bainesse Cemetery: part of the grave goods assemblage from Grave 148.

GRAVE 149

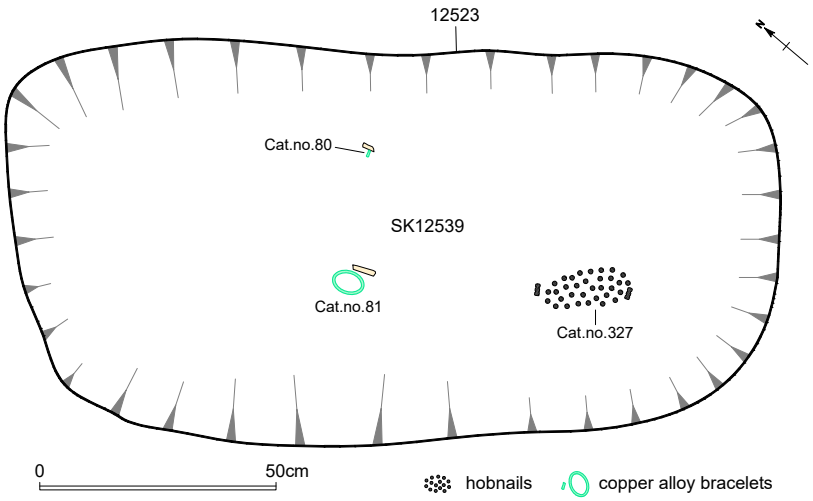


Figure 3.89: Bainesse Cemetery: plan of Grave 149.

The survival of the bone within this grave was poor; only minimal parts of the lower arms remained where staining from the copper-alloy bracelets appeared to have aided preservation. Cat. no. 327, which was recorded on site as unidentified iron objects, was shown by X-ray to be rows of fused hobnails. The pattern of hobnails suggested only one item of footwear, which was found to be lying flat and therefore is interpreted as not being worn. Both the primary and secondary fills included cremated human bone. A large body sherd from a beaker and a rim sherd that probably originated from the same vessel may have represented fragments of a grave good that had been redeposited in the primary fill.

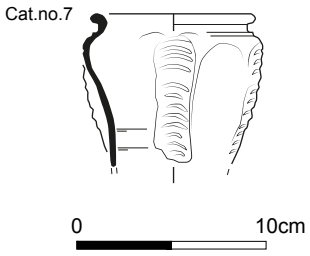


Figure 3.91: Bainesse Cemetery: redeposited ceramic vessel from Grave 149

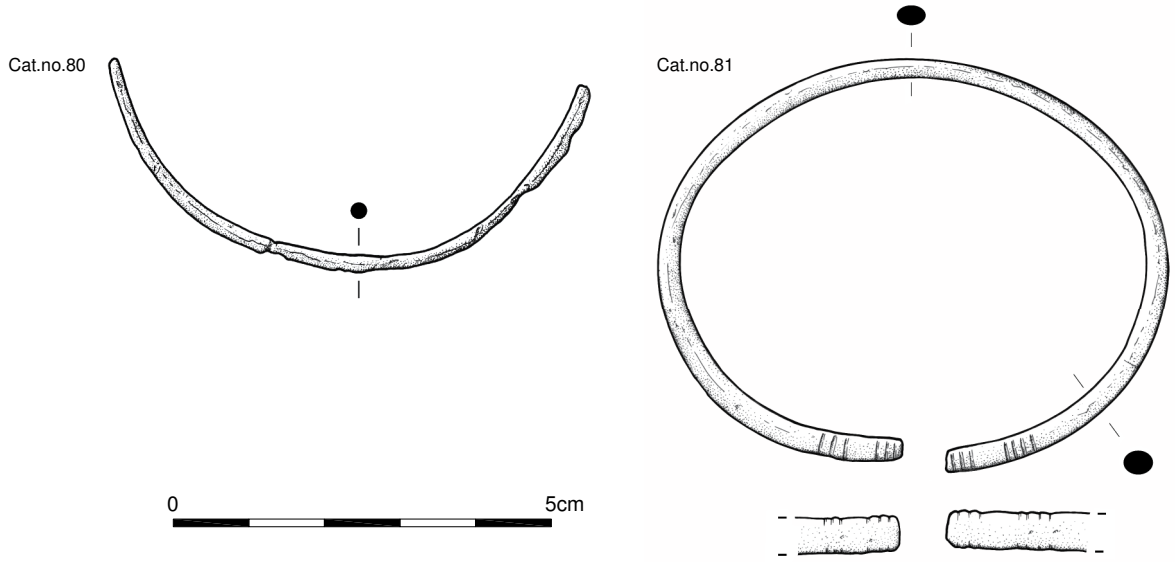


Figure 3.90: Bainesse Cemetery: copper-alloy bracelets from Grave 149.

Table 3.140: grave catalogue for Grave 149.

Grave cut 12523	
Orientation	SE-NW
Max. dimensions	L: 1.80m, W: 0.86m, D: 0.28m
Associated contexts	Secondary grave fill 12513; primary grave fill 12530
Skeleton 12539	
Orientation	Head to NW? (based on location of hobnails)
Posture	Supine?
Arm position	Extended alongside torso?
Sex	-
Age	-
Completeness	<5%
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	Context 12530: Cat. no. 7 Nene Valley ware beaker sherds x3
Grave goods	Context 12513: Cat. no. 80 copper-alloy bracelet (left); Cat. no. 81 copper-alloy bracelet (right)
	Context 12530: Cat. no. 327 nailed footwear represented by x65 hobnails
Other finds	Context 12513: pottery sherd x1 (Fabric NV1); pottery sherd x2 (Fabric GRB6); cremated human bone; RF697 iron nail x1; glass chip x1; hammerscale; flint/chert debitage x9
	Context 12530: cremated human bone; unidentified burnt bone; magnetic matter; hammerscale; flint debitage x2
Environmental	Context 12513: charcoal: *Corylus* (hazel); *Fraxinus* (ash); *Fraxinus* / Maloideae (ash/pomaceous wood); undet. hardwood
	Context 12513: charred plant remains: *Geranium* sp. (geranium); undet. 1–2mm; Poaceae undet. 2–5mm
	Context 12530: charcoal: *Corylus* (hazel); *Quercus* (oak); *Fraxinus* (ash); undet. hardwood
	Context 12530: charred plant remains: undet. cerealia; Poaceae undet. 2–5mm
Interpretative date	AD275–400

GRAVE 150

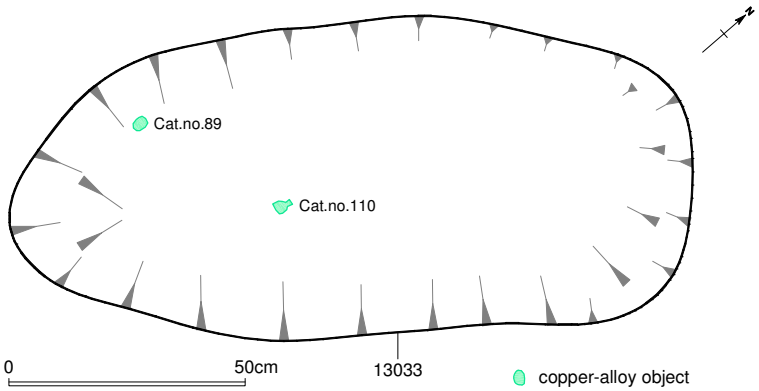


Figure 3.92: Bainesse Cemetery: plan of Grave 150.

Cat. nos 89 and 110 were found 0.36m apart and do not appear to have been associated with each other.

Table 3.141: grave catalogue for Grave 150.

Grave cut 13033	
Orientation	NE-SW
Max. dimensions	L: 1.45m, W: 0.78m, D: 0.19m
Associated contexts	Grave fill 13034
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 89 copper-alloy loop; Cat. no. 110 copper-alloy bulla-type amulet (1st–4th century AD)
Other finds	-
Environmental	-
Interpretative date	AD100–400

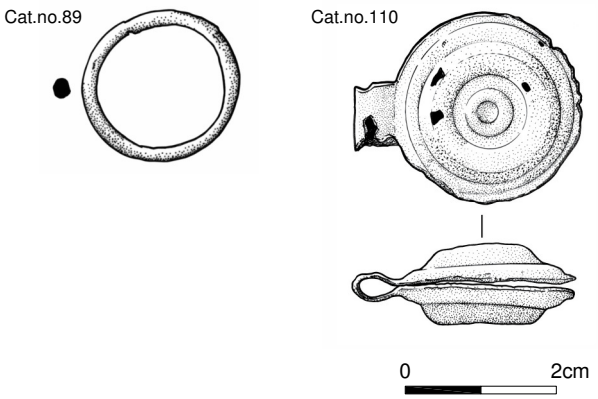


Figure 3.93: Bainesse Cemetery: copper-alloy loop and amulet from Grave 150.

GRAVE 151

Table 3.142: grave catalogue for Grave 151.

Grave cut 12407	
Orientation	SE-NW
Max. dimensions	L: 1.56m, W: 0.78m, D: 0.20m
Associated contexts	Grave fill 12406
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x5 (Fabric OBC4); pottery sherd x1 (Fabric OBB); cremated human bone; flint debitage x2
Environmental	-
Interpretative date	AD275–420

GRAVE 152

Table 3.143: grave catalogue for Grave 152.

Grave cut 12567	
Orientation	ENE-WSW
Max. dimensions	L: >0.57m, W: 0.58m, D: 0.25m
Associated contexts	Grave fill 12577
Skeleton 12576	
Orientation	Head to WSW
Posture	Supine?
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charcoal: undet. hardwood
Interpretative date	AD265–400

GRAVE 153

Table 3.144: grave catalogue for Grave 153.

Grave cut 13202	
Orientation	E-W
Max. dimensions	L: 0.70m, W: 0.52m, D: 0.54
Associated contexts	Grave fill 13200
Skeleton 13201	
Orientation	Head to E
Posture	Supine?
Arm position	-
Sex	-
Age	4–6
Completeness	10%
Preservation	Poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD132–260 (75.9%), cal AD279–326 (19.5%) (1796±29BP, SUERC-72968/GU43640)
	cal AD245–390
Grave contents: none	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 13200: magnetic matter
	Context 13201 (SK): other disarticulated human bone
Environmental	-
Interpretative date	AD245–390

GRAVE 154

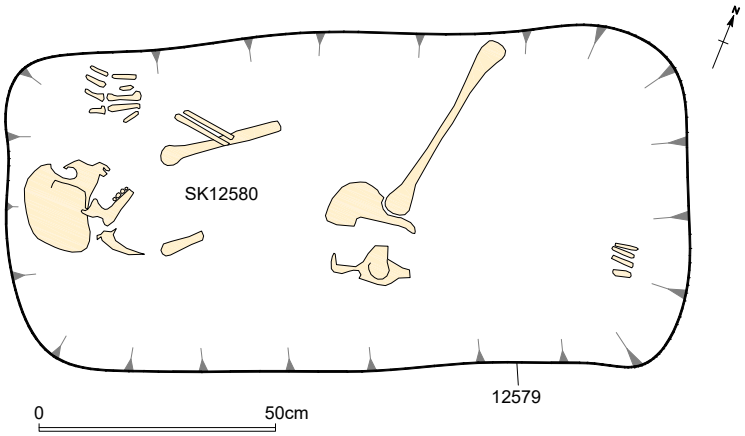


Figure 3.94: Bainesse Cemetery: plan of Grave 154.

Table 3.145: grave catalogue for Grave 154.

Grave cut 12579	
Orientation	ENE-WSW
Max. dimensions	L: 1.45m, W: 0.73m, D: 0.48m
Associated contexts	Grave fill 12581
Skeleton 12580	
Orientation	Head to WSW
Posture	Flexed on left side, right femur flexed at hip
Arm position	Right arm flexed at elbow, hand adjacent to skull
Sex	Probable male
Age	26–35
Completeness	25%
Preservation	Moderate
Dental pathology	Calculus, caries, periodontal disease, likely occupation-related wear facet
Pathology	Hypervascularity on ectocranial skull vault frags; bilateral cribra orbitalia; DJC in C2
Stature (mm)	-
C14 date	cal AD129–260 (83.0%), cal AD280–325 (12.4%) (1805±30BP, SUERC-74410/GU44477)
	cal AD215–340
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD215–340

GRAVE 155

Table 3.146: grave catalogue for Grave 155.

Grave cut 12626	
Orientation	SSE-NNW
Max. dimensions	L: >0.38m, W: 0.35m, D: 0.20m
Associated contexts	Grave fill 12628
Skeleton 12627	
Orientation	Head to SSW
Posture	Supine?
Arm position	-
Sex	-
Age	18+
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	
Interpretative date	AD170–400

GRAVE 156

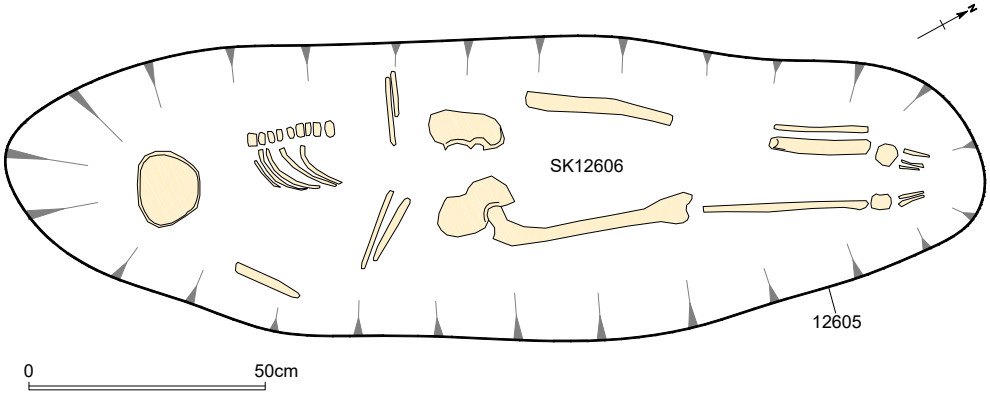


Figure 3.95: Bainesse Cemetery: plan of Grave 156.

Table 3.138: grave catalogue for Grave 147.

Grave cut 12605	
Orientation	NNE-SSW
Max. dimensions	L: 1.90m, W: 0.90m, D: 0.40m
Associated contexts	Grave fill 12607
Skeleton 12606	
Orientation	Head to SSW
Posture	Supine; head facing right; legs extended, parallel
Arm position	Right arm slightly extended at shoulder, both arms flexed at elbow, over abdomen
Sex	Probable male
Age	26–35
Completeness	40%
Preservation	Poor
Dental pathology	Calculus, DEH, periodontal disease
Pathology	Lamellar bone on left tibial mid shaft; DJC C2, right femur, right fibula, feet
Stature (mm)	-
C14 date	cal AD79–228 (95.4%) (1863±29BP, SUERC-72964/GU43635)
	cal AD170–265 (90%), cal AD275–315 (5%)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; samian flake (form unknown); undiagnostic fragments of ceramic building material fragment x1; magnetic matter
Environmental	Charred plant remains: *Hordeum* (hulled barley)
Interpretative date	AD170–315

GRAVE 157

Table 3.148: grave catalogue for Grave 157.

Grave cut 12838/13013	
Orientation	NE-SW
Max. dimensions	L: >1.45m, W: 0.68m, D: 0.22m
Associated contexts	Grave fill 12837/13014
Skeleton 12836	
Orientation	-
Posture	One unidentified long bone, parallel with grave sides
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD150–295

GRAVE 158

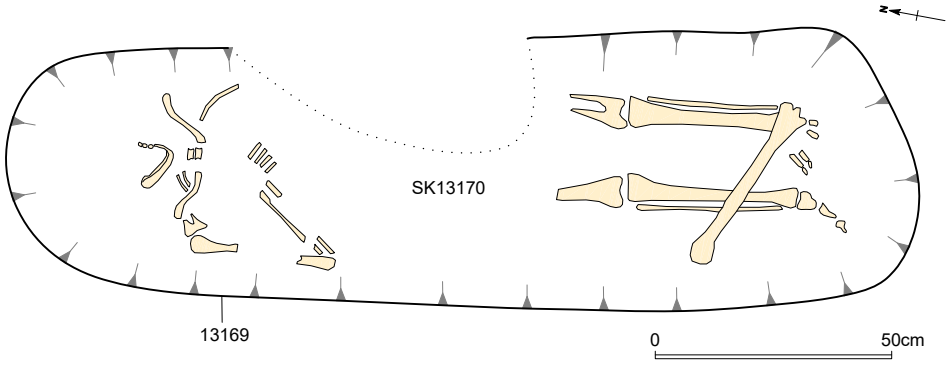


Figure 3.96: Bainesse Cemetery: plan of Grave 158.

Table 3.140: grave catalogue for Grave 149.

Grave cut 13169	
Orientation	N-S
Max. dimensions	L: 1.90m, W: 0.62m, D: 0.52m
Associated contexts	Grave fill 13171
Skeleton 13170	
Orientation	Head to N
Posture	Supine; head face up; legs extended, parallel
Arm position	Flexed at elbow, hand on torso
Sex	Probable female
Age	18+
Completeness	60%
Preservation	Moderate
Dental pathology	AMTL, calculus, caries
Pathology	Hypervascularity on superior aspect of ectocranial surface of occipital bone; small spicule of protruding bone on endocranial surface of right inferior occipital bone; smooth but slightly pitted depression in left mandibular condyle surface; cribra orbitalia in right orbit; lamellar bone on both tibial shafts; DJC cervical spine, right TMJ, femora, tibiae
Stature (mm)	-
C14 date	cal AD89–102 (1.5%), cal AD123–258 (89.2%), cal AD285–287 (0.2%), cal AD296–322 (4.5%) (1820±32BP, SUERC-67723/GU41073)
	cal AD150–255
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	Charcoal: *Fraxinus* (ash); undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat); *Plantago lanceolata* (ribwort plantain)
Interpretative date	AD150–255

GRAVE 159

Table 3.150: grave catalogue for Grave 159.

Grave cut 12768	
Orientation	SSE-NNW
Max. dimensions	L: 1.75m, W: 0.88m, D: 0.27m
Associated contexts	Grave fill 12767
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Glass fragment x1; chert debitage x1
Environmental	-
Interpretative date	AD120–400

GRAVE 160

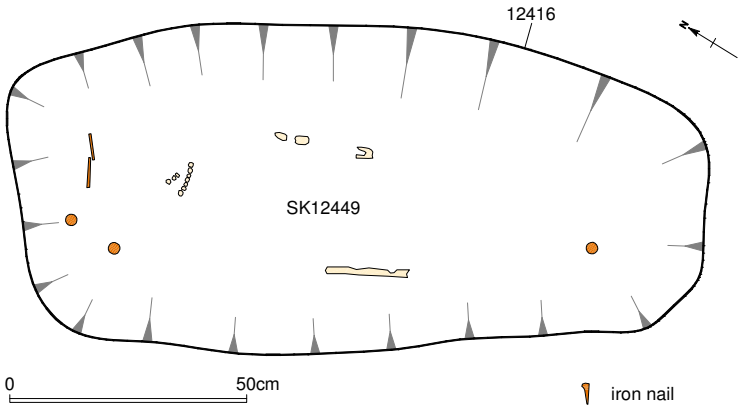


Figure 3.97: Bainesse Cemetery: plan of Grave 160.

The coffin in this grave measured approximately 1.10m in length and contained at least six nails.

Table 3.151: grave catalogue for Grave 160.

Grave cut 12416	
Orientation	SSE-NNW
Max. dimensions	L: 1.52m, W: 0.90m, D: 0.25m
Associated contexts	Grave fill 12417/12765
Skeleton 12449	
Orientation	Head to NNW
Posture	Supine
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD391–540 (95.4%) (1606±32BP, SUERC-76683/GU45982)
	cal AD380–470
Grave contents	
Coffin	Context 12417: RF620, RF641, RF648, RF649 iron nails x5
	Context 12765: RF10526–7, RF10531 iron nail x6 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12417: cremated human bone; unidentified burnt bone; RF13690 hobnail x1; flint debitage x1; fired clay; magnetic matter; hammerscale
Environmental	Context 12417: charcoal: root undet.
Interpretative date	AD380–70

GRAVE 161

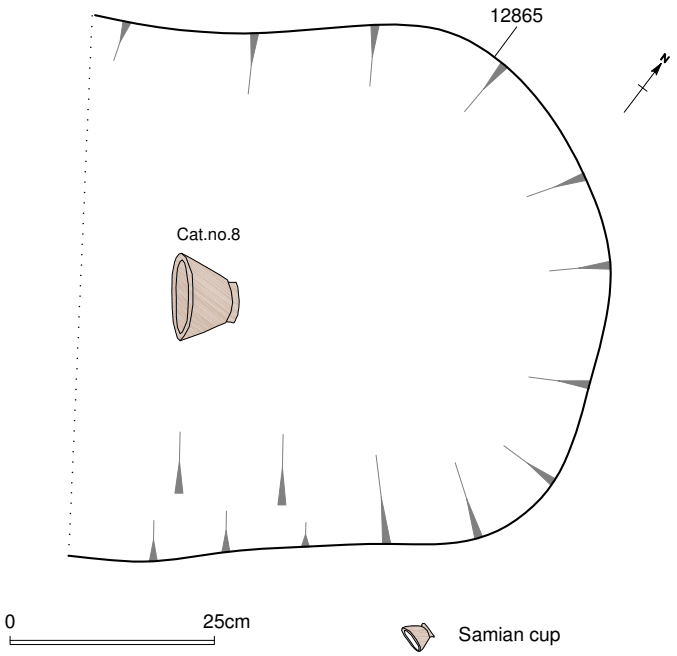


Figure 3.98: Bainesse Cemetery: plan of Grave 161.

The samian cup lay on the base at a distance of 0.5m from the north-eastern end of the grave. However, the absence of skeletal remains means that its position relative to the body remains unknown.

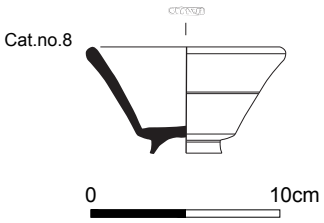


Figure 3.99: Bainesse Cemetery: placed samian cup from Grave 161.

Table 3.152: grave catalogue for Grave 161.

Grave cut 12865	
Orientation	NE-SW
Max. dimensions	L: >0.70m, W: 0.70m, D: 0.20m
Associated contexts	Grave fill 12684
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	Cat. no. 8 samian cup (AD120–200)
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	AD120–220

GRAVE 162

The incomplete coffin in this grave contained at least 20 nails, which were suggestive of 20mm thick planks. However, all those present were recovered from the south-southeastern end. The absence of nails along most of the length of the grave, suggested the possibility that these may actually represent the northern end of a coffin, rather than the southern end. As the southern end of Grave **162** was truncated by Grave **163**, which contained a coffin with nails of comparable level and alignment to those recorded in the former, there is the possibility that all the nails in fact represent the coffin in Grave **163**. Skeleton 12782 comprised two extremely poorly preserved teeth found lying 0.07m apart, only one of which survived in a condition that allowed for analysis. The teeth were situated among the recorded coffin nails. Therefore, there remains the possibility that these might also have belonged in Grave **163**.

Figure 3.100: Bainesse Cemetery: plan of Grave 162.

Table 3.153: grave catalogue for Grave 162.

Grave cut 12781	
Orientation	SSE-NNW
Max. dimensions	L: >1.10m, W: 0.60m, D: 0.26m
Associated contexts	Grave fill 12780
Skeleton 12782	
Orientation	Head to SSE? (2 teeth)
Posture	-
Arm position	-
Sex	-
Age	Non-adult, 4+
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	RF10537–43, RF10545–59, RF11128, RF11980 iron nails x20 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	AD120–400

GRAVE 163

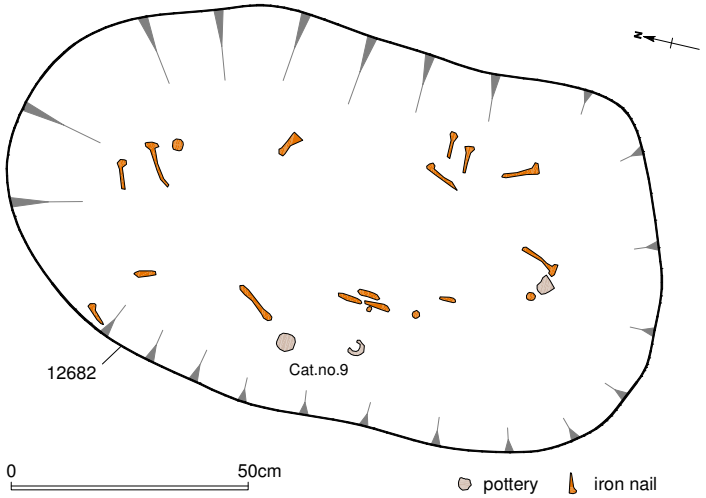


Figure 3.101: Bainesse Cemetery: plan of Grave 163.

The coffin in this grave measured approximately 1.00m by 0.35m by at least 0.13m high and contained at least 23 nails. If the nails recorded in Grave **162** were part of this coffin, then the minimum nail count would be 43, and the approximate length of the coffin can be extended to 1.20m. The sherds of Trier beaker (Cat. no. 9) were not found together as if broken in situ; however, where their locations were recorded, these were located outside of the coffin to the west and south. It is possible that the beaker originated from any of Graves **162**, **164**, and **167**, all of which had suffered substantial truncation by Grave **163**.

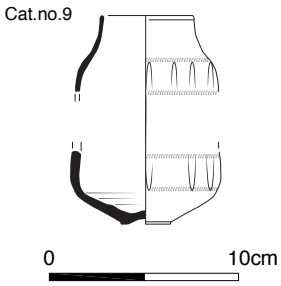


Figure 3.102: Bainesse Cemetery: redeposited ceramic vessel from Grave 163.

Table 3.154: grave catalogue for Grave 163.

Grave cut 12682	
Orientation	N-S
Max. dimensions	L: 1.33m, W: 0.80m, D: 0.37m
Associated contexts	Grave fill 12683
Skeleton: none	
Grave contents	
Coffin	RF10366–7, RF10374–7, RF10379–89, RF10391, RF10407 iron nails x23 (minimum)
Ceramic vessel	Cat. no. 9 Trier black-slip beaker sherds x16, base and rim all present (c.AD200–275)
Grave goods	-
Other finds	Cat. no. 347 hobnails x6 (possible disturbed footwear); pottery sherd x1 (Fabric GRA6); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD380–480

GRAVE 164

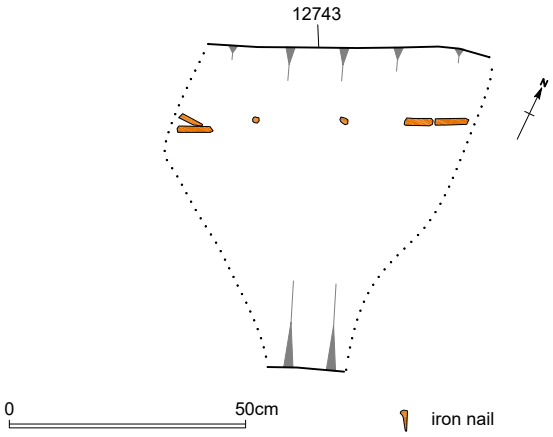


Figure 3.103: Bainesse Cemetery: plan of Grave 164.

Table 3.155: grave catalogue for Grave 164.

Grave cut 12743	
Orientation	ENE-WSW
Max. dimensions	L: >0.70m, W: 0.70m, D: 0.36m
Associated contexts	Grave fill 12742
Skeleton: none	
Grave contents	
Coffin	RF10474, RF10487–8, RF10490–1, RF10493–4 iron nails x6 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

GRAVE 165

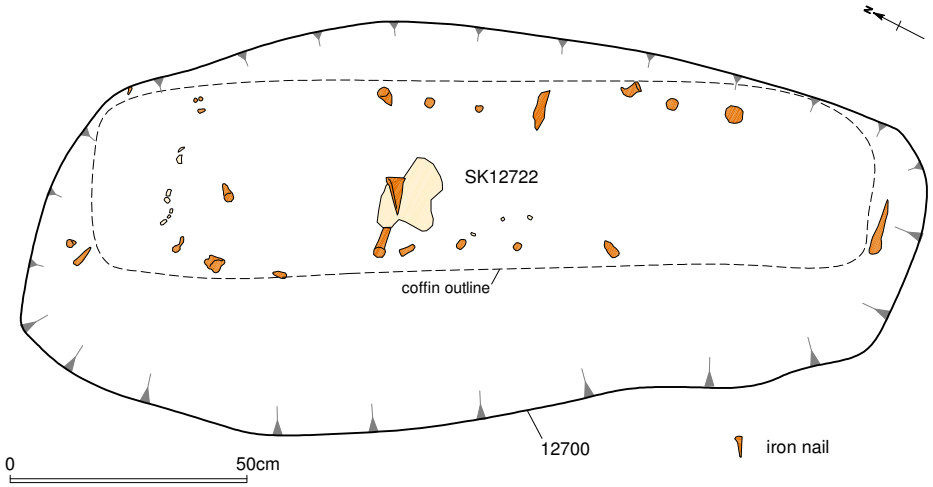


Figure 3.104: Bainesse Cemetery: plan of Grave 165.

The coffin in this grave measured approximately 1.75m by 0.40m by at least 0.20m high and contained at least 34 nails.

Table 3.156: grave catalogue for Grave 165.

Grave cut 12700	
Orientation	SSE-NNW
Max. dimensions	L: 1.65m, W: 0.84m, D: 0.60m
Associated contexts	Grave fill 12699; coffin impression 12710; coffin fill 12711
Skeleton 12722	
Orientation	N/A
Posture	Head lying on right side
Arm position	-
Sex	-
Age	18–25
Completeness	5%
Preservation	Moderate
Dental pathology	Calculus, caries, DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD261–279(2.7%), cal AD326–433 (85.1%), cal AD460–466 (0.5%), cal AD489–533 (7.1%) (1655±32BP, SUERC-76684/GU45983)
	cal AD345–470
Grave contents	
Coffin	Context 12699: RF10475 iron nails x34 (minimum)
	Context 12711: RF10415–9, RF10421–7, RF10429–31, RF10451–57, RF10476 iron nails x19
Ceramic vessel	-
Grave goods	-
Other finds	Context 12699: RF13599 hobnails x4; hammerscale
	Context 12711: Cat. no. 438 hobnails x 7; pottery sherds x1 (Fabric NV1); hammerscale
Environmental	Context 12699: charred plant remains: *Pisum* sp. (garden pea); undet. cerealia
Interpretative date	AD345–470

GRAVE 166

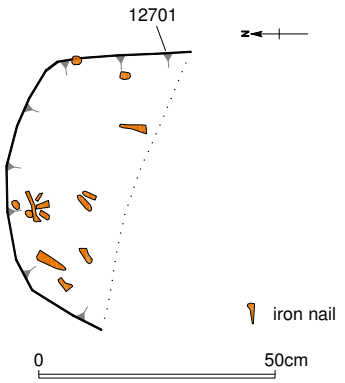


Figure 3.105: Bainesse Cemetery: plan of Grave 166.

Table 3.157: grave catalogue for Grave 166.

Grave cut 12701	
Orientation	N-S
Max. dimensions	L: >0.40m, W: 0.62m, D: 0.40m
Associated contexts	Grave fill 12702
Skeleton: none	
Grave contents	
Coffin	RF10390, RF10368–72, RF10497–507 iron nails x16 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric FLB1)
Environmental	-
Interpretative date	AD80–400

GRAVE 167

Table 3.158: grave catalogue for Grave 167.

Grave cut 12778	
Orientation	Unknown
Max. dimensions	D: 0.38m
Associated contexts	Grave fill 12777
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF10533–6 iron nails x4
Environmental	-
Interpretative date	AD80–400

GRAVE 168

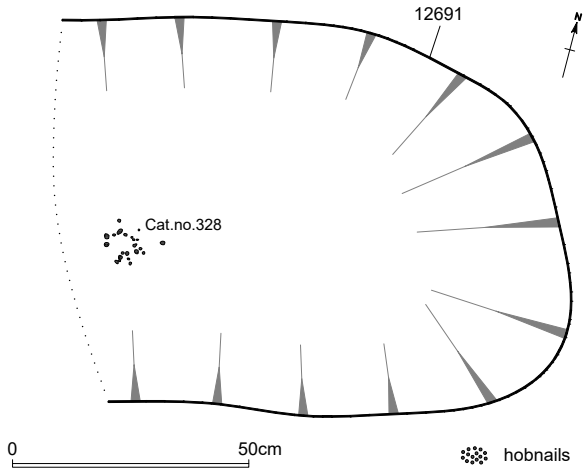


Figure 3.106: Bainesse Cemetery: plan of Grave 168.

A group of 25 hobnails, which were found at the western end of the grave and adjacent to the area of truncation caused by Grave **165**, probably represented a disturbed item of footwear and indicated that this was likely to be the foot end of the grave. The presence of the hobnails also suggested that almost the full length of the grave survived despite its truncation.

Table 3.159: grave catalogue for Grave 168.

Grave cut 12691	
Orientation	E-W
Max. dimensions	L: >1.06m, W: 0.82m, D: 0.29m
Associated contexts	Grave fill 12705
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 328 nailed footwear represented by x25 (minimum) hobnails
Other finds	RF10489 and RF10496 iron nails x2
Environmental	-
Interpretative date	AD80–400

GRAVE 170

Table 3.160: grave catalogue for Grave 170.

Grave cut 13166	
Orientation	SE-NW
Max. dimensions	L: 2.15m, W: 1.00m, D: 0.72m
Associated contexts	Grave fill 13167
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	-

GRAVE 172

The southern part of Grave **172** had been completely removed by a post-medieval field boundary ditch. The beaker sherds (Cat. no. 10) possibly represented a disturbed or redeposited grave good.

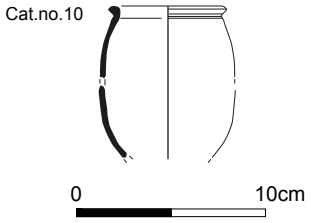


Figure 3.107: Bainesse Cemetery: redeposited ceramic vessel from Grave 172.

Table 3.161: grave catalogue for Grave 172.

Grave cut 12703	
Orientation	N-S
Max. dimensions	L: >0.75m, W: 0.80m, D: 0.21m
Associated contexts	Grave fill 12704
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	Cat. no. 10 pottery sherds x10 from a reduced coarseware (Fabric GRA6) beaker (late 1st–2nd century AD)
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	AD70–200

GRAVE 173

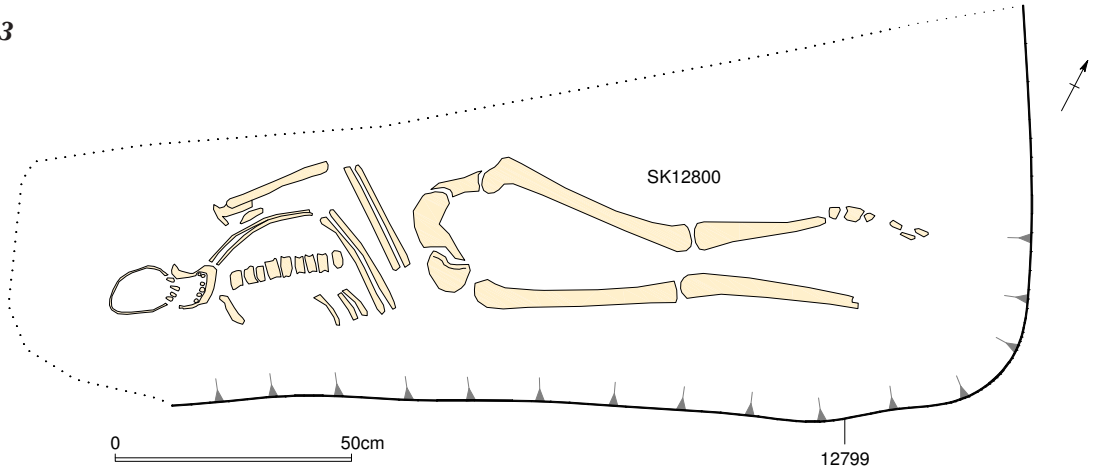


Figure 3.108: Bainesse Cemetery: plan of Grave 173.

Table 3.162: grave catalogue for Grave 173.

Grave cut 12799	
Orientation	ENE-WSW
Max. dimensions	L: 2.10m, W: >0.80m, D: 0.37m
Associated contexts	Grave fill 12801
Skeleton 12800	
Orientation	Head to WSW
Posture	Supine; head face up; legs extended, parallel
Arm position	Both arms flexed at the elbows, hands over abdomen
Sex	Probable male
Age	26–35
Completeness	20%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	Lamellar bone on fragments of both femoral shafts; DJD C5–C7
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	-

GRAVE 175

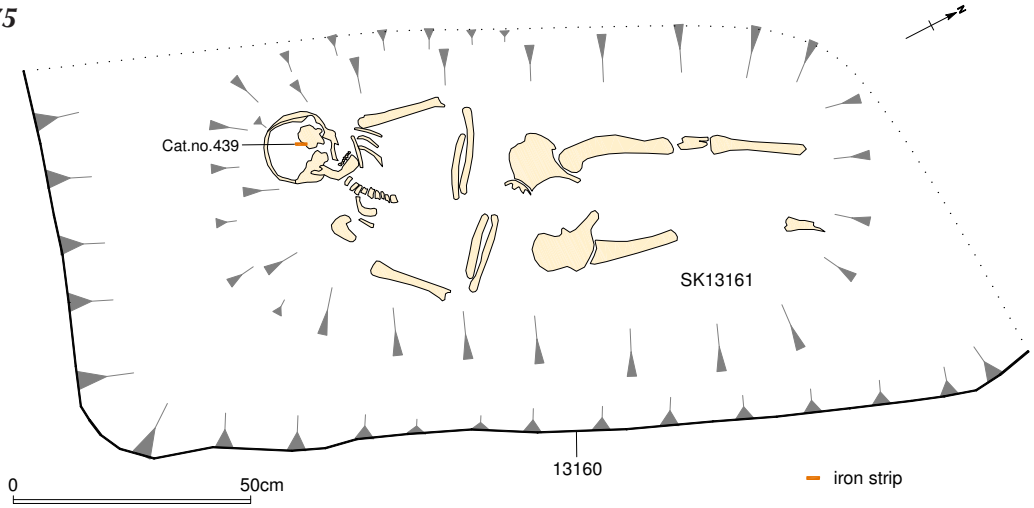


Figure 3.109: Bainesse Cemetery: plan of Grave 175.

The late radiocarbon date, indicating this as the sole Anglo-Saxon burial within Bainesse Cemetery, suggests that it was coincidentally located within the earlier cemetery.

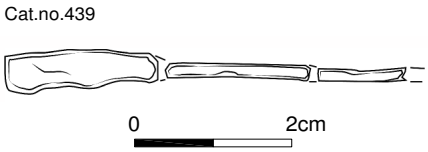


Figure 3.110 (right): Bainesse Cemetery: iron strip from Grave 175.

Table 3.163: grave catalogue for Grave 175.

Grave cut 13160	
Orientation	NNE-SSW
Max. dimensions	L: 2.00m, W: 0.85m, D: 0.68m
Associated contexts	Grave fill 13162
Skeleton 13161	
Orientation	Head to SSW
Posture	Supine; head tilted left; legs extended, parallel
Arm position	Arms flexed at the elbow, both hands over abdomen
Sex	Probable female
Age	36+
Completeness	85%
Preservation	Moderate
Dental pathology	AMTL, calculus, periodontal disease
Pathology	OA and DJC in cervical spine; OA in proximal ulna; DJC left mandibular condyle, proximal humeri, proximal ulnae, proximal femora; exaggerated meningeal impressions in parietal bones; sinusitis
Stature (mm)	-
C14 date	1. cal AD897–926 (17.4%), cal AD942–1022 (78.0%) (1066±29BP, SUERC-73005/GU43686)
	2. cal AD900–922 (3.7%), cal AD949–1045 (88.8%), cal AD1099–1120 (2.6%), cal AD1144–1146 (0.2%) (1028±33BP, SUERC-75045/GU4491)
	Combined: *cal AD905–920 (3%), cal AD965–1025 (92%)*
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cat. no. 439 iron strip x1
Environmental	-
Interpretative date	-

GRAVE 176

Teeth were recovered from a sample of grave fill **12945** and were deemed to have originated from the skeleton in Grave **177**, which was also identified by teeth recovered from a sample.

Table 3.164: grave catalogue for Grave 176.

Grave cut 12944	
Orientation	ENE-WSW
Max. dimensions	L: 1.10m, W: >0.70m, D: 0.44m
Associated contexts	Grave fill 12945
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; iron nail shank x1
Environmental	-
Interpretative date	AD150–400

GRAVE 177

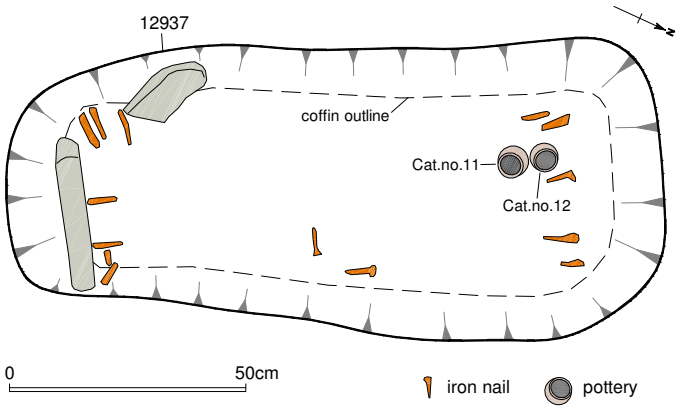


Figure 3.111: Bainesse Cemetery: plan of Grave 177.

No skeletal remains were recorded during excavation. However, teeth were recovered from a sample of coffin fill **12976**. Osteological analysis of these remains determined that they belonged to a juvenile aged 4–6 years. Teeth from a sample of grave fill **12945** in Grave **176**, which truncated Grave **177**, are also suggested to relate to this individual. The coffin in this grave measured approximately 1.05m by 0.38m by at least 0.21m high and contained at least 14 nails, which were suggestive of 30mm thick planks. The intentionally placed beakers (Cat. nos 11 and 12) were located at the north-northwestern end and appeared to have been placed within the coffin, suggesting that this was likely to have been the head end of the grave.

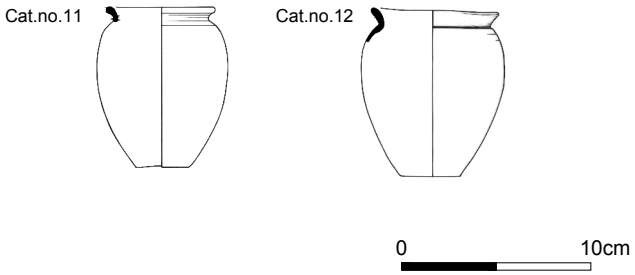


Figure 3.112: Bainesse Cemetery: placed ceramic vessels from Grave 177.

Table 3.165: grave catalogue for Grave 177.

Grave cut 12937	
Orientation	SSE-NNW
Max. dimensions	L: 1.40m, W: 0.54m, D: 0.43m
Associated contexts	Grave fill 12938; coffin impression 12975; coffin fill 12976
Skeleton: none	
Grave contents	
Coffin	RF11283–4, RF11295–305, RF11322 iron nails x14 (minimum)
Ceramic vessel	Cat. no. 11 complete reduced coarseware jars/beaker x1; Cat. no. 12 complete reduced coarseware jars/beaker (AD150–240/80)
Grave goods	-
Other finds	Context 12938: magnetic matter; hammerscale
	Context 12976: disarticulated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD150–300

GRAVE 178

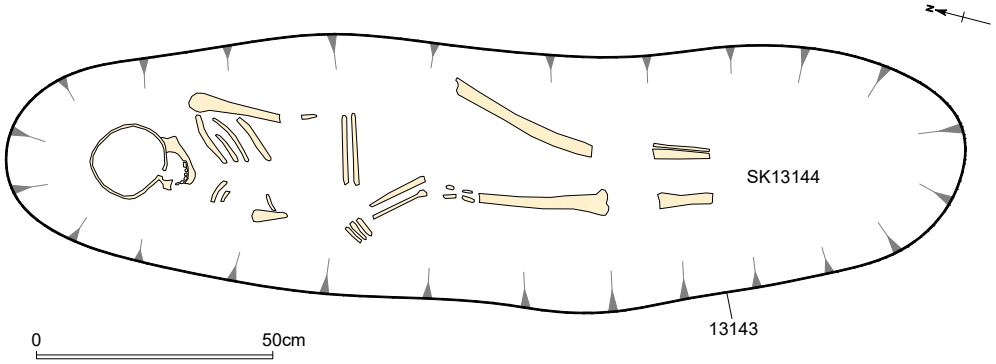


Figure 3.113: Bainesse Cemetery: plan of Grave 178.

This burial was not recorded as truncating any earlier burials. As a result, it is suggested that disarticulated Skeleton 13150 originated from a shallower grave, which had been totally removed by grave cut **13143**.

Table 3.166: grave catalogue for Grave 178.

Grave cut 13143	
Orientation	SSE-NNW
Max. dimensions	L: 2.02m, W: 0.55m, D: 0.64m
Associated contexts	Grave fill 13145
Skeleton 13144 (178a)	
Orientation	Head to NNW
Posture	Supine; head tilted right; legs extended, parallel
Arm position	Right flexed at elbow, hand in pevis; left flexed at elbow, hand over right forearm
Sex	Probable female
Age	36+
Completeness	20%
Preservation	Very poor
Dental pathology	AMTL, calculus, caries, DEH, periodontal disease
Pathology	OA and DJC in cervical spine; eburnation on right proximal femur; lamellar striae on bilateral humeral shaft fragments, on right tibia shaft fragment and on anterior surfaces of femora
Stature (mm)	-
C14 date	cal AD399–538 (95.4%) (1603±29BP, SUERC-74412/GU44482)
	cal AD385–465
Skeleton 13150 (178b)	
Orientation	N/A (disarticulated bones)
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<10%
Preservation	Very poor
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	cal AD265–273 (0.8%), cal AD331–434 (84.8%), cal AD460–466 (0.6%), cal AD489–533 (9.1%) (1649±30BP, SUERC-74413/GU44483)
	cal AD330–435
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; magnetic matter; hammerscale
Environmental	Charred plant remains: Triticum sp. (wheat); Poaceae undet. 2–5mm; undet. 1–2mm
Interpretative date	AD385–465

GRAVE 179

Table 3.167: grave catalogue for Grave 179.

Grave cut 12383	
Orientation	SE-NW
Max. dimensions	L: 1.15m, W: 0.45m, D: 0.12m
Associated contexts	Grave fill 12384
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Iron nails x5
Environmental	-
Interpretative date	-

GRAVE 180

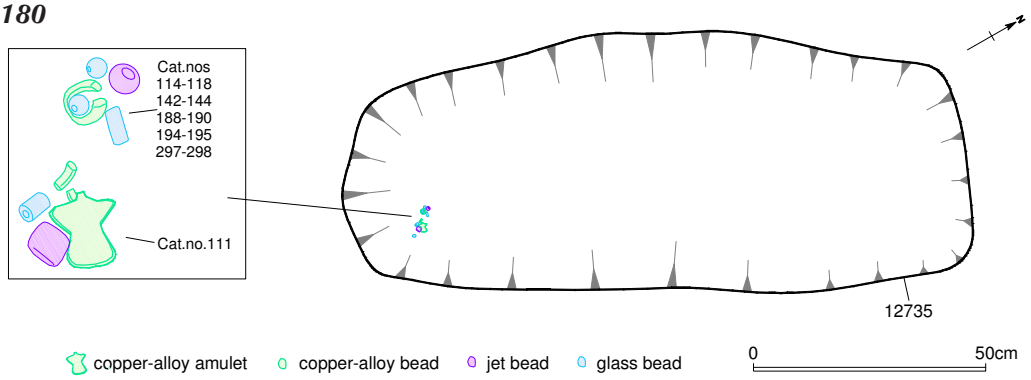


Figure 3.114: Bainesse Cemetery: plan of Grave 180.

Table 3.168: grave catalogue for Grave 180.

Grave cut 12735	
Orientation	NE-SW
Max. dimensions	L: 1.34m, W: 0.56m, D: 0.14m
Associated contexts	Grave fill 12734
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. nos 114–118, 142–144, 188–190, 194–195, 297–298 jet and glass beads; Cat. no. 111 copper-alloy phallic pendant (2nd–3rd century AD)
Other finds	-
Environmental	-
Interpretative date	AD200–400

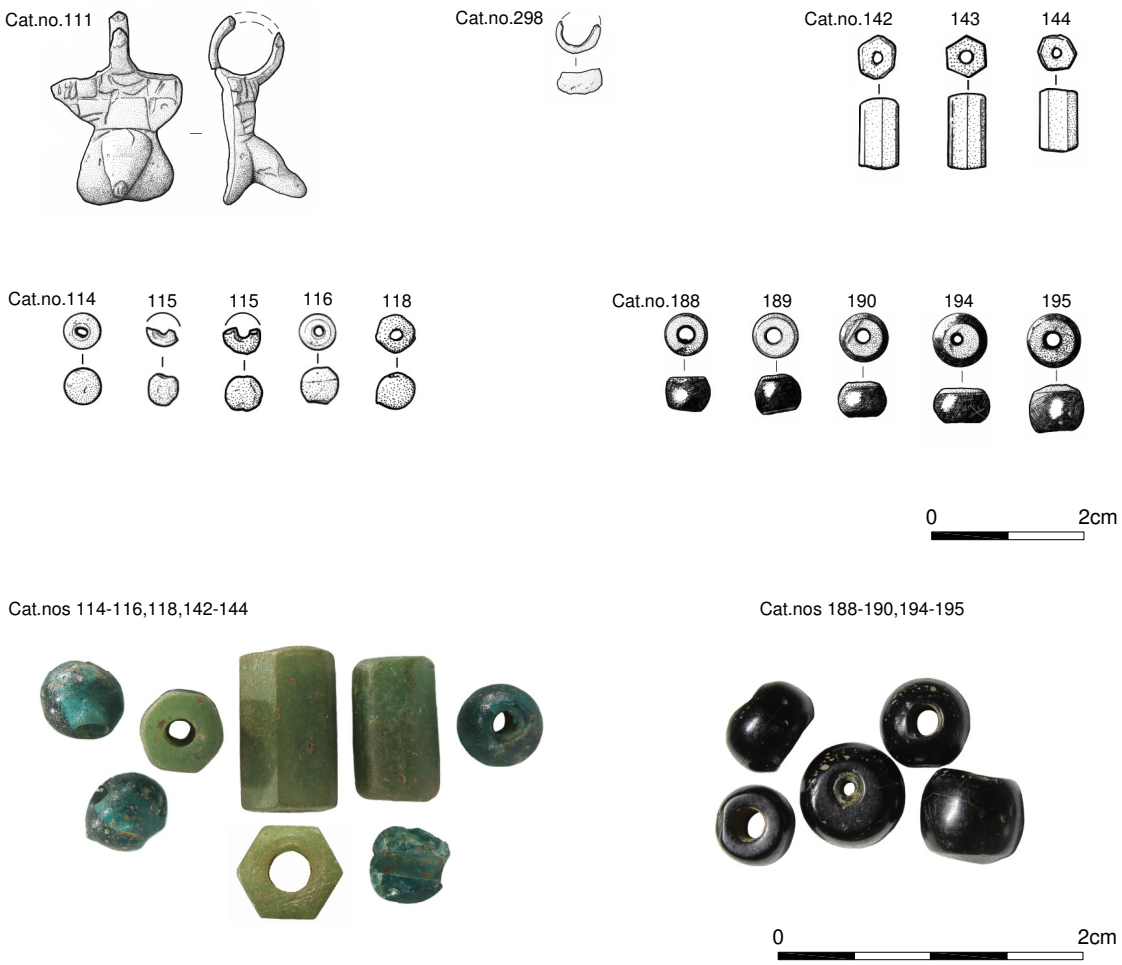


Figure 3.115: Bainesse Cemetery: beads and copper-alloy phallic pendant from Grave 180.

GRAVE 181

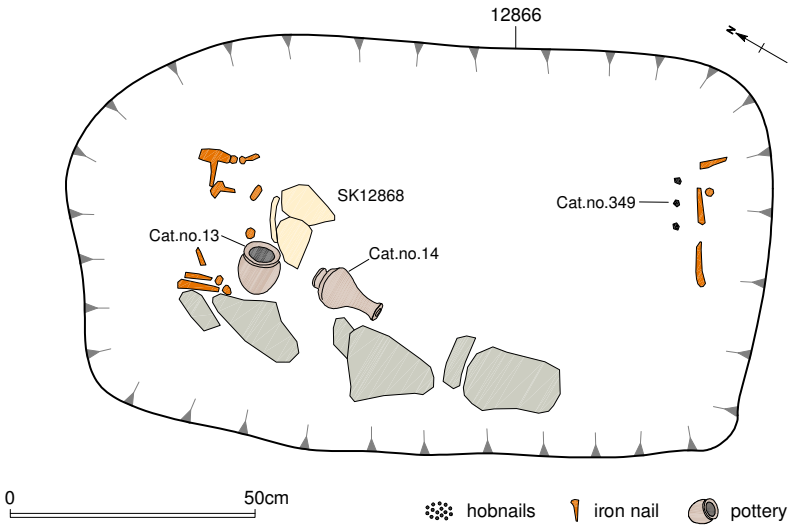


Figure 3.116: Bainesse Cemetery: plan of Grave 181.

The coffin in this grave measured approximately 1.10m by 0.30m by at least 0.09m high. It contained at least 13 nails and used 20 and 25mm thick planks in its construction. The placed ceramic vessels (Cat. nos 13 and 14) were both located within the coffin and adjacent to the right side of the skull. The position of the hobnails suggested that the footwear recovered from the grave was worn by the individual when it was interred.

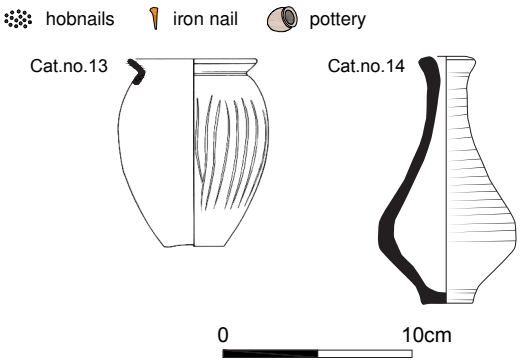


Figure 3.117: Bainesse Cemetery: placed ceramic vessels from Grave 181.

Table 3.169: grave catalogue for Grave 181.

Grave cut 12866	
Orientation	SSE-NNW
Max. dimensions	L: 1.42m, W: 0.84m, D: 0.60m
Associated contexts	Coffin fill 12867; secondary grave fill 12869; coffin impression 12926; primary grave fill 12927
Skeleton 12868	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	4–6
Completeness	5%
Preservation	Moderate
Dental pathology	DEH, supernumerary maxillary RC
Pathology	-
Stature (mm)	-
C14 date	cal AD130–257 (89.3%), cal AD297–321 (6.1%) (1808±26BP, SUERC-73014/GU43692)
	cal AD175–380
Grave contents	
Coffin	Context 12867: RF11221–6, RF11240–8, RF11260–1 iron nails x13 (minimum)
Ceramic vessel	Context 12867: Cat. no. 13 reduced coarseware jar/beaker (AD150–240/800); Cat. no. 14 reduced coarseware unguent pot (?2nd century AD)
Grave goods	Cat. no. 349 nailed footwear represented by x12 (minimum) hobnails
Other finds	Context 12927: magnetic matter; hammerscale
Environmental	-
Interpretative date	AD175–380

GRAVE 182

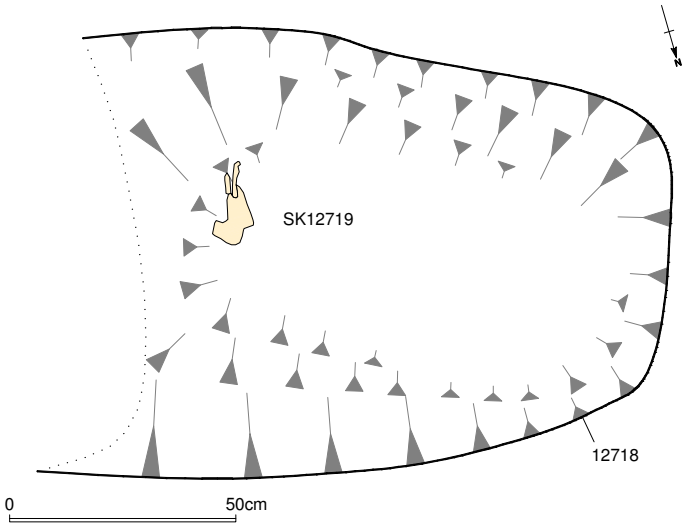


Figure 3.118: Bainesse Cemetery: plan of Grave 182.

Table 3.170: grave catalogue for Grave 182.

Grave cut 12718	
Orientation	ESE-WNW
Max. dimensions	L: >1.35m, W: 0.99m, D: 0.45m
Associated contexts	Grave fill 12720
Skeleton 12719	
Orientation	-
Posture	Supine?
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	
Interpretative date	AD80–400

GRAVE 183

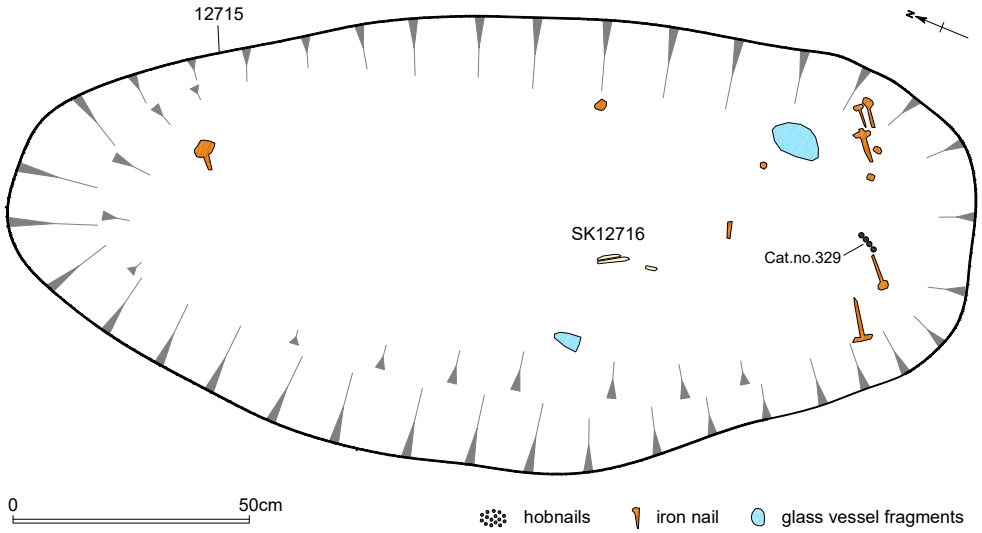


Figure 3.119: Bainesse Cemetery: plan of Grave 183.

The coffin in this grave measured approximately 1.50m by 0.50m by at least 0.16m high and contained at least 16 nails. The hobnails were located within the south-southeastern end of the coffin and suggested that the footwear was being worn by the individual at the time of interment.

Table 3.171: grave catalogue for Grave 183.

Grave cut 12715	
Orientation	SSE-NNW
Max. dimensions	L: 2.06m, W: 0.98m, D: 0.72m
Associated contexts	Grave fill 12717
Skeleton 12716	
Orientation	Head to NNW? (hobnails at SSE end)
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD139–198 (9.5%), cal AD207–343 (85.9%) (1771±29BP, SUERC-72957/GU43631)
	cal AD230–400
Grave contents	
Coffin	RF10435–50 iron nails x16 (minimum)
Ceramic vessel	-
Grave goods	Cat. no. 329 nailed footwear represented by x21 (minimum) hobnails
Other finds	Pottery sherd x1 (Fabric BB1); Cat. no. 441–445 glass fragments x20 from five vessels, including a flask, a cylindrical cup, and up to three bottles
Environmental	-
Interpretative date	AD230–400

GRAVE 184

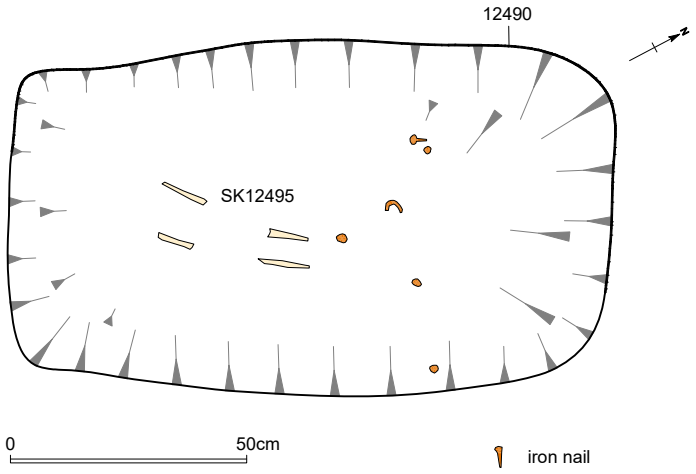


Figure 3.120: Bainesse Cemetery: plan of Grave 184.

The coffin within this grave contained at least seven nails and was constructed of 30mm thick planks. Both the grave backfill and the coffin fill included cremated human bone.

Table 3.172: grave catalogue for Grave 184.

Grave cut 12490	
Orientation	NNE-SSW
Max. dimensions	L: 1.26m, W: 0.77m, D: 0.51m
Associated contexts	Grave fill 12491; coffin fill 12492
Skeleton 12495	
Orientation	Head to NNE
Posture	Supine?; legs extended, parallel
Arm position	-
Sex	-
Age	1–6
Completeness	5%
Preservation	Moderate
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD69–221 (95.4%) (1877±29BP, SUERC-72996/GU43680)
	cal AD150–260 (93%), cal AD300–320 (2%)
Grave contents	
Coffin	Context 12492: RF682–7 iron nails x7 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12491: disarticulated human bone; cremated human bone; magnetic matter; hammerscale; chert and flint debitage x2
	Context 12492: samian sherd x1 (unidentiable form); cremated human bone; magnetic matter; hammerscale
Environmental	Context 12491: charcoal: undet. hardwood
	Charred plant remains: *Hordeum* (hulled barley); *Triticum dicoccum* (emmer); undet. cerealia
	Context 12492: charred plant remains: *Hordeum* (hulled barley); *Triticum* sp. (wheat); *Triticum aestivum* (bread wheat)
Interpretative date	AD150–320

GRAVE 185

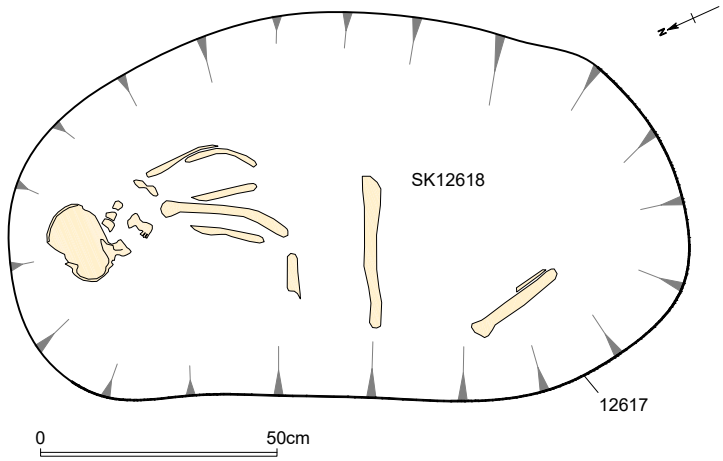


Figure 3.121: Bainesse Cemetery: plan of Grave 185.

Table 3.173: grave catalogue for Grave 185.

Grave cut 12617	
Orientation	NNE-SSW
Max. dimensions	L: 1.50m, W: 1.00m, D: 0.46m
Associated contexts	Grave fill 12619
Skeleton 12618	
Orientation	Head to NNE
Posture	Head facing right; torso on right side; legs flexed at hip and knee
Arm position	Left arm tightly flexed at elbow, hand next to mandible
Sex	Probable male
Age	26–35
Completeness	30%
Preservation	Poor
Dental pathology	AMTL, calculus, caries, abscess, periodontal disease
Pathology	Hypervascularity on orbital ridges and right zygomatic bone; lamellar bone on right tibia, and left and right femora fragments
Stature (mm)	-
C14 date	cal AD430–493 (23.7%), cal AD530–607 (71.7%) (1518±25BP, SUERC-73004/GU43685)
	cal AD425–465
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale; flint debitage x1
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD425–465

GRAVE 186

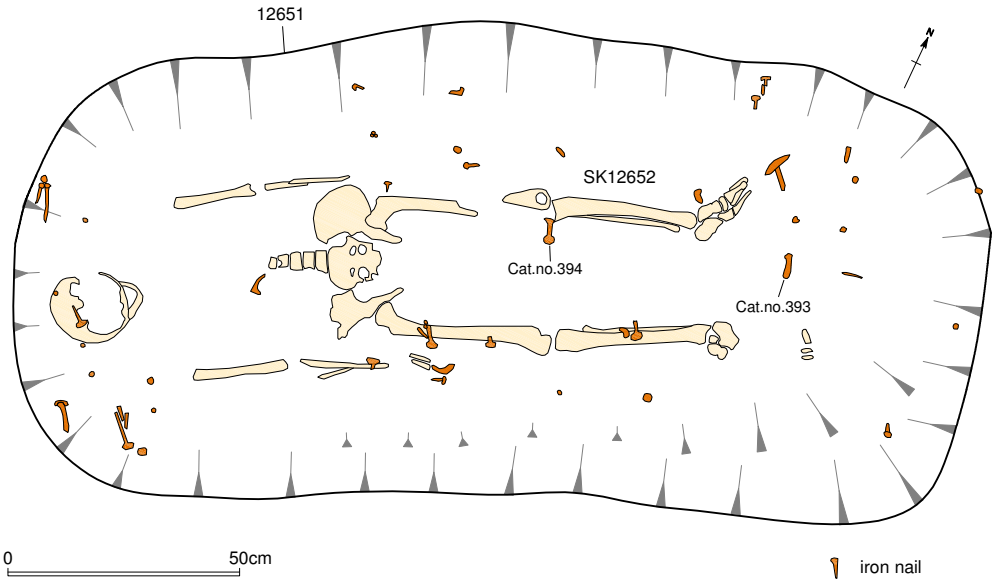


Figure 3.122: Bainesse Cemetery: plan of Grave 186.

The coffin within this grave measured approximately 2.00m by 0.60m by at least 0.23m high and contained at least 45 nails and two staples. The planks used in its construction are suggested to have been 25 and 30mm thick. Left and right perinatal ulnae were recovered at the feet of Skeleton 12652 and have been recorded as disarticulated human bone.

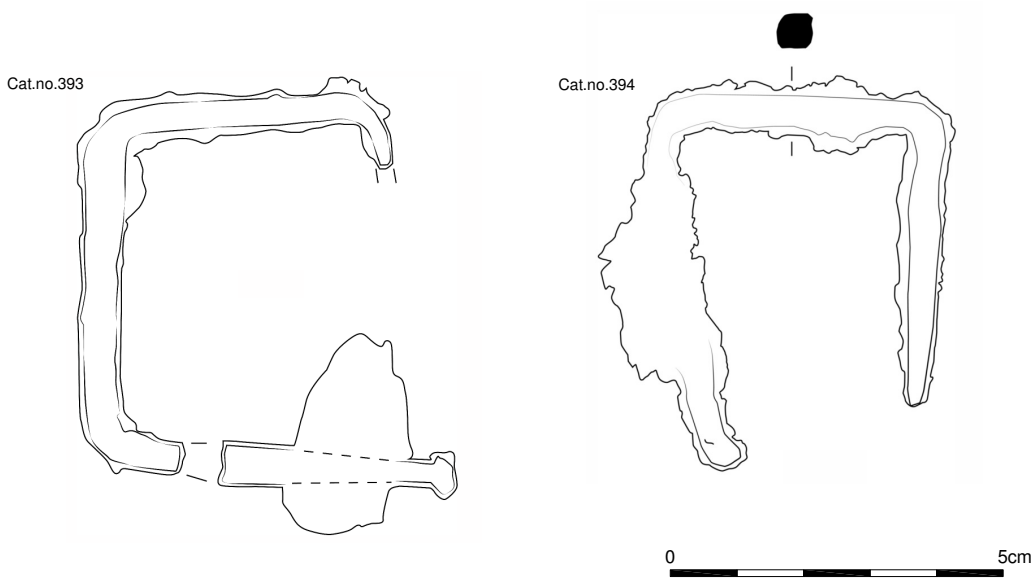


Figure 3.123: Bainesse Cemetery: iron coffin staples from Grave 186.

Table 3.174: grave catalogue for Grave 186.

Grave cut 12651	
Orientation	ENE-WSW
Max. dimensions	L: 2.30m, W: 1.05m, D: 0.60m
Associated contexts	Grave fill 12653
Skeleton 12652	
Orientation	Head to WSW
Posture	Supine; head face up; legs extended, parallel
Arm position	Extended alongside torso
Sex	Female
Age	46+
Completeness	75%
Preservation	Poor
Dental pathology	AMTL, calculus, DEH
Pathology	OA in lumbar spine, right knee, S1, left ankle; DJC in right hand, hip, left foot; cribra orbitalia
Stature (mm)	-
C14 date	cal AD43–155 (1.2%), cal AD168–195 (3.4%), cal AD210–352 (89.5%), cal AD368–379 (1.2%) (1765±29BP, SUERC-72988/GU43672)
	cal AD235–400
Grave contents	
Coffin	RF10315–20, RF10322–52, RF10354–65, RF13596 iron nails x45 (minimum); Cat. nos 393–94 iron staples x2
Ceramic vessel	-
Grave goods	-
Other finds	Context 12653: pottery sherds x3 (Fabric GRA5); Cat. no. 350 hobnails x6 (from possible nailed footwear grave good); magnetic matter
	Context 12652 (SK): other disarticulated human bone
Environmental	Charred plant remains: *Triticum spelta* (spelt); *Hordeum* (hulled barley); *Triticum* sp. (wheat); Poaceae undet. 2–5mm; undet. cerealia
Interpretative date	AD235–400

GRAVE 187

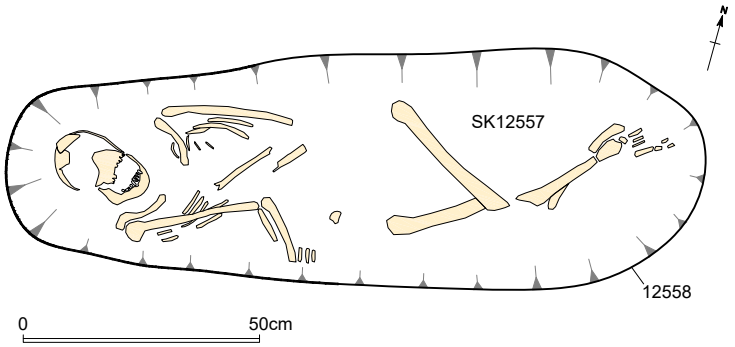


Figure 3.124: Bainesse Cemetery: plan of Grave 187.

Grave fill **12587** contained three joining rim and body sherds from a handmade "Knapton"-type jar, which probably represented a single fractured sherd that had been redeposited.

Table 3.175: grave catalogue for Grave 187.

Grave cut 12558	
Orientation	ENE-WSW
Max. dimensions	L: 1.45m, W: 0.56m, D: 0.33m
Associated contexts	Grave fill 12587
Skeleton 12557	
Orientation	Head to WSW
Posture	Supine; head face up, right leg extended; left flexed over right, knee raised
Arm position	Right flexed away from torso, left flexed over thorax
Sex	-
Age	18+
Completeness	80%
Preservation	Moderate
Dental pathology	Calculus, caries, DEH, periodontal disease
Pathology	Woven bone on left and right posterior shafts of femora; DJC in right distal humerus
Stature (mm)	-
C14 date	cal AD429–494 (21.2%), cal AD509–519 (1.5%), cal AD528–630 (72.7%) (1510±32BP, SUERC-67692/GU41050)
	cal AD420–465
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone; cremated human bone; unidentified burnt bone; pottery sherd x2 (Fabric OAB); pottery sherd x3 (Fabric GRB1); pottery sherd x4 (Fabric H2); Cat. no. 437 hobnails x2; glass chip; magnetic matter; hammerscale
Environmental	Charcoal: Quercus (oak)
	Charred plant remains: *Triticum aestivum* (bread wheat); *Triticum* sp. (wheat); Poaceae undet. >5 mm; Poaceae undet. 2–5mm; undet. cerealia; Apiaceae undet.
Interpretative date	AD420–465

GRAVE 188

Table 3.176: grave catalogue for Grave 188.

Grave cut 12755	
Orientation	N-S
Max. dimensions	L: 2.00m, W: 2.20m, D: 0.52m
Associated contexts	Grave fill 12756
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF10508 fossil
Environmental	-
Interpretative date	-

GRAVE 189

Table 3.177: grave catalogue for Grave 189.

Grave cut 12643	
Orientation	NE-SW
Max. dimensions	L: >0.80m, W: 1.13m, D: 0.38m
Associated contexts	Grave fill 12644
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	-
Interpretative date	-

GRAVE 190

Table 3.178: grave catalogue for Grave 190.

Grave cut 12637	
Orientation	ESE-WNW
Max. dimensions	L: 1.43m, W: 0.82m, D: 0.50m
Associated contexts	Grave fill 12638
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	Charcoal: undet. hardwood
Interpretative date	-

GRAVE 191

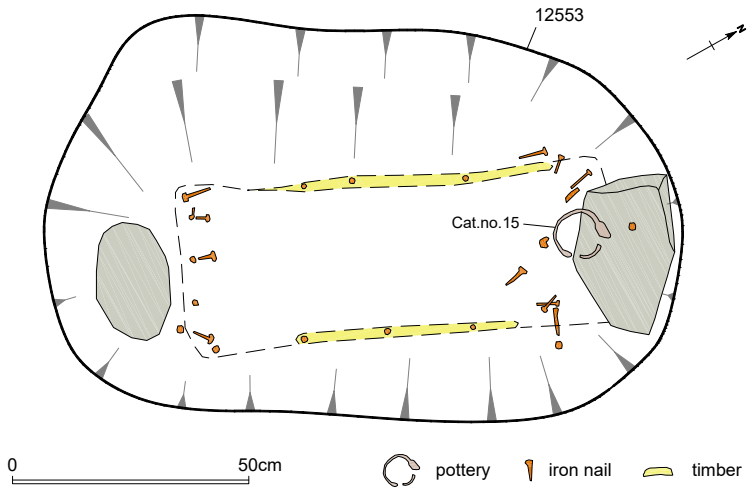


Figure 3.125: Bainesse Cemetery: plan of Grave 191.

The coffin within this grave measured approximately 0.90m by 0.35m by at least 0.09m high and contained at least 21 nails. Areas of extremely decayed timber were present on both long sides. The Nene Valley ware beaker (Cat. no. 15) was placed centrally at the north-eastern end of the coffin, possibly indicating that this was be the head end. The length of the coffin was suggestive of a juvenile burial.

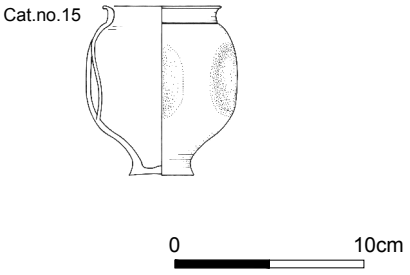


Figure 3.126: Bainesse Cemetery: placed ceramic vessel from Grave 191.

Table 3.179: grave catalogue for Grave 191.

Grave cut 12553	
Orientation	NE-SW
Max. dimensions	L: 1.35m, W: 0.83m, D: 0.47m
Associated contexts	Grave fill around coffin 12514; grave fill above coffin 12554; coffin fill 12562
Skeleton: none	
Grave contents	
Coffin	Nails RF732–54, RF756–8 iron nails x21 (minimum)
Ceramic vessel	Cat. no. 15 Nene Valley ware beaker (200–250AD)
Grave goods	-
Other finds	Context 12514: undiagnostic ceramic building material fragments x3
	Context 12554: glass chip x1; chert flake x1
	Context 12562: pottery sherds x11 (Fabric NV1); hammerscale; flint debitage x1
Environmental	Context 12514: charcoal: undet. hardwood
	Context 12514: charred plant remains: *Danthonia decumbens* (heathgrass); *Hordeum* (hulled barley); *Triticum aestivum* (bread wheat); Poaceae undet. >5 mm; undet. 2–5mm
	Context 12554: charred plant remains: Poaceae undet. 2–5mm; undet. cerealia
	Context 12562: charred plant remains: *Secale* sp. (rye); *Triticum* sp. (wheat); undet. 1–2mm
Interpretative date	AD200–400

GRAVE 192

Table 3.180: grave catalogue for Grave 192.

Grave cut 12629	
Orientation	E-W
Max. dimensions	L: >1.25m, W: 1.00m, D: 0.35m
Associated contexts	Grave fill 12630
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Triticum spelta* (spelt)
Interpretative date	AD80–400

GRAVE 193

The coffin within Grave **193** measured approximately 1.10m by 0.50m by at least 0.19m high and contained a minimum of 23 nails.

Table 3.181: grave catalogue for Grave 193.

Grave cut 12584	
Orientation	SSE-NNW
Max. dimensions	L: >1.40m, W: 0.76m, D: 0.22m
Associated contexts	Grave fill above coffin 12585; coffin fill 12601; grave fill around coffin 12602
Skeleton 12596	
Orientation	Head to SSE
Posture	-
Arm position	-
Sex	-
Age	Non-adult
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	RF729, RF732–3, RF783–99, RF10212–17, RF10220 iron nails x23 nails (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 12585: cremated human bone; flint debitage x2; magnetic matter
	Context 12601: cremated human bone; magnetic matter; hammerscale
	Context 12602: cremated human bone
Environmental	Context 12585: charcoal: *Quercus* (oak)
	Context 12601: charcoal: *Acer campestre* (field maple)
	Context 12601: charred plant remains: *Triticum spelta* (spelt); Apiaceae undet.
Interpretative date	AD80–400

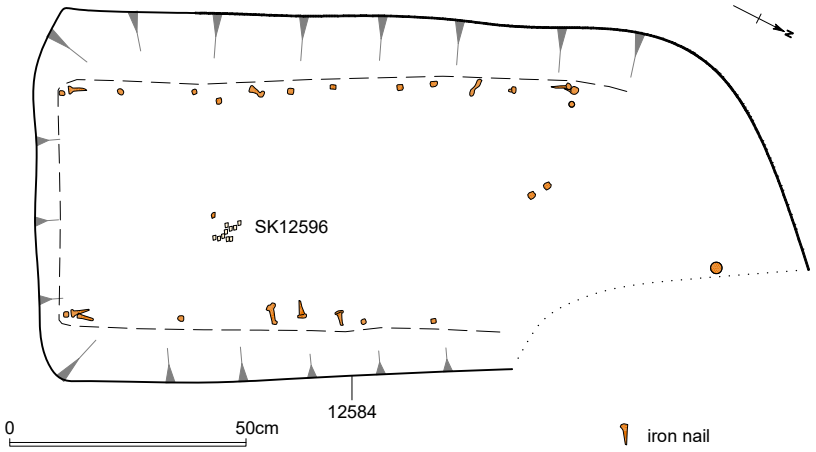


Figure 3.127: Bainesse Cemetery: plan of Grave 193.

GRAVE 194

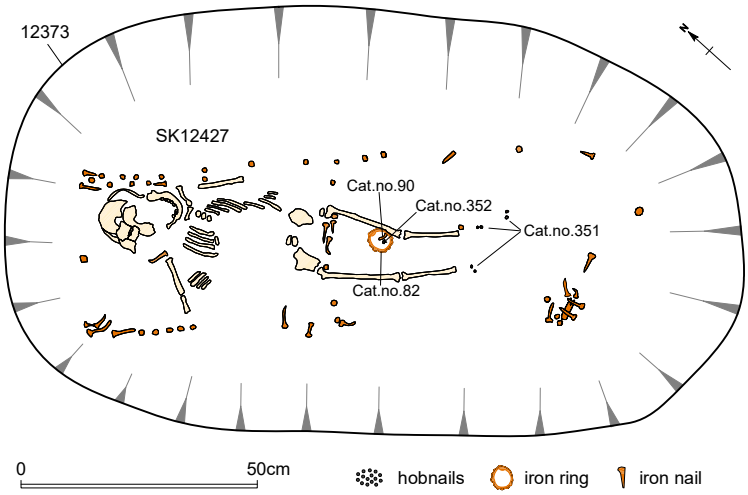


Figure 3.128: Bainesse Cemetery: plan of Grave 194.

The coffin in this grave measured approximately 1.10m by 0.35m by at least 0.29m high and contained a minimum of 46 nails. The iron bracelet and ring (Cat. nos 82 and 90 respectively) were located together next to the lower end of the left femur. As a result, they are suggested to have been enclosed in a bag or other receptacle rather than being worn. Six hobnails were recorded adjacent to the feet and might indicate the presence of nailed footwear.

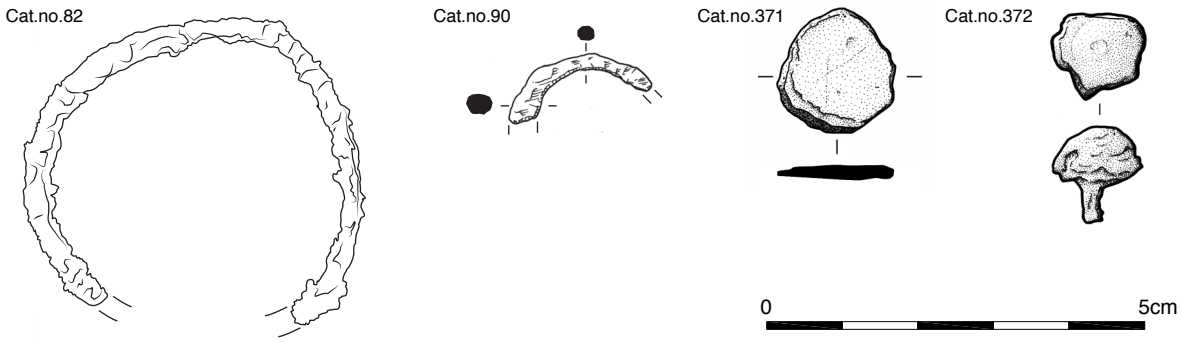


Figure 3.129: Bainesse Cemetery: part of the finds assemblage from Grave 194.

Table 3.182: grave catalogue for Grave 194.

Grave cut 12373	
Orientation	SE-NW
Max. dimensions	L: 1.56m, W: 0.90m, D: 0.45m
Associated contexts	Primary coffin fill 12374; secondary coffin fill 12428; grave fill 12429
Skeleton 12427	
Orientation	Head to NW
Posture	Supine; head tilted right; legs extended, parallel
Arm position	Upper left straight, both humeri extended
Sex	-
Age	3–4
Completeness	70%
Preservation	Moderate
Dental pathology	Caries
Pathology	Sinusitis in left sinus; cribra orbitalia in right orbit; pitting on superior intracranial surface of left greater wing of sphenoid; pitting on the right posterior surface of maxilla and orbital aspect of right zygomatic bone
Stature (mm)	-
C14 date	cal AD252–394 (95.4%) (1713±26BP, SUERC-72995/GU43679)
	cal AD255–285 (5%), cal AD320–450 (90%)
Grave contents	
Coffin	Context 12374: RF602–18, RF621–29, RF631–33, RF635–39, RF644–47, RF651–63 iron nails x46
Ceramic vessel	-
Grave goods	Cat. no. 351 possible nailed footwear represented by x6 hobnails; Cat. no. 82 iron bracelet; Cat. no. 90 iron ring/loop; Cat. no. 372 copper-alloy stud
Other finds	Context 12428: Cat. no. 371 pottery disc (Fabric BB1); pottery sherd x1 (Fabric NV1); pottery sherd x1 (Fabric GRB11); samian sherd x1 (unidentified form); cremated human bone
	Context 12429: pottery sherd x1 (Fabric GRA3); pottery sherd x1 (Fabric GRB1); cremated human bone; magnetic matter; hammerscale
	Context 12374: Cat. no. 352 hobnail x1 (with bracelet); cremated human bone
Environmental	Context 12374: charcoal: Cornus/Viburnum (dogwood/guelder-rose)
	Context 12374: charred plant remains: Hordeum (hulled barley); Triticum sp. (wheat); undet. cerealia
	Context 12429: charcoal: *Acer campestre*; *Prunus* (stone fruit); *Rosa* (rose); undet. hardwood
	Context 12429: charred plant remains: *Triticum* sp. (wheat); *Triticum aestivum* (bread wheat); Poaceae undet. 2–5mm; Poaceae undet. >5 mm; undet. cerealia
	Context 12428: charcoal: *Quercus* (oak); *Cornus* (dogwood); undet. hardwood
	Context 12427(SK): charred plant remains: *Triticum* sp. (wheat); undet. cerealia
Interpretative date	AD255–300

GRAVE 195

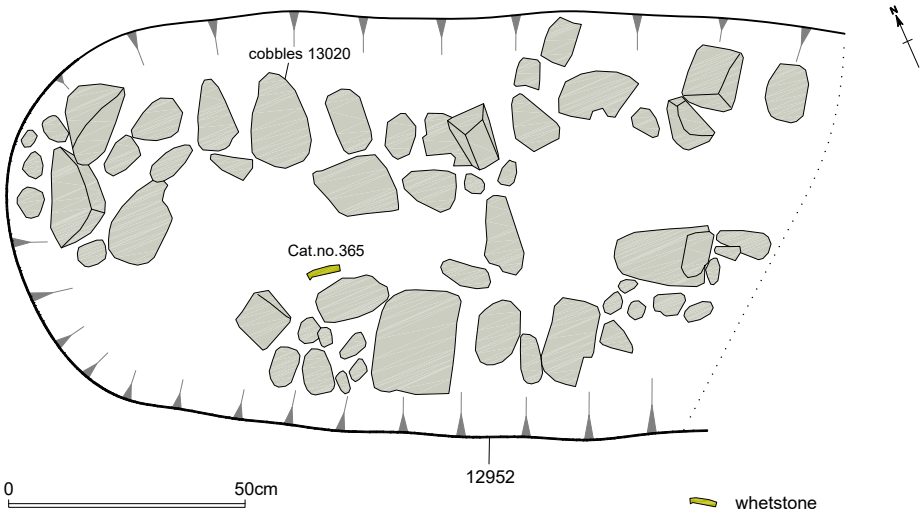


Figure 3.130: Bainesse Cemetery: plan of Grave 195.

The rough cobble lining (**13020**) within this grave was one of nine similar deposits recorded in within the cemetery. In five graves, these deposits surrounded nailed coffins, while in four (including this burial) there was no material evidence of a coffin. However, it is suggested that an un-nailed coffin may have been present within these inhumations.

Table 3.183: grave catalogue for Grave 195.

Grave cut 12952	
Orientation	ESE-WNW
Max. dimensions	L: >1.71m, W: 0,90m, D: 0.45m
Associated contexts	Grave fill 12953; rough cobble lining 13020
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Context 12953: Cat. no. 365 whetstone (possible accidental inclusion)
Other finds	Context 12953: magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–320

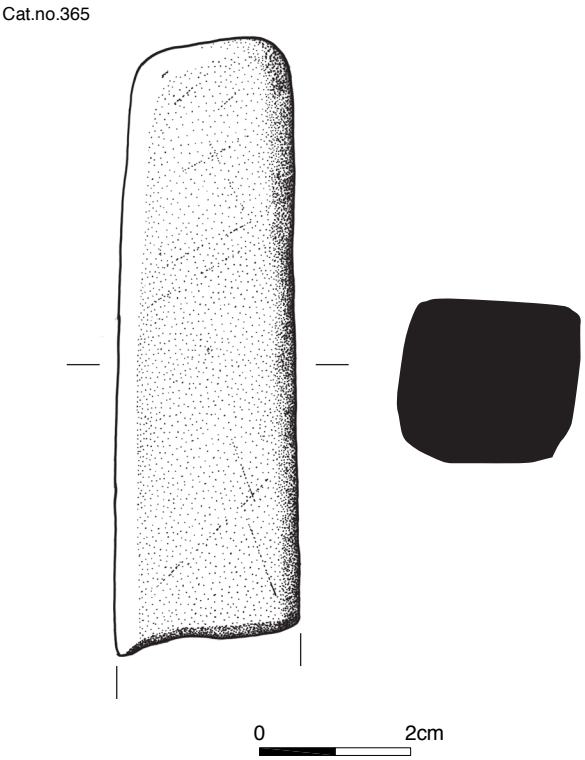


Figure 3.131: Bainesse Cemetery: whetstone from Grave 195.

GRAVE 196

Table 3.184: grave catalogue for Grave 196.

Grave cut 12663	
Orientation	ESE-WNW
Max. dimensions	L: 2.03m, W: 1.15m, D: 0.64m
Associated contexts	Grave fill 12664
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric NV1); magnetic matter; hammerscale
Environmental	-
Interpretative date	AD200–400

GRAVE 197

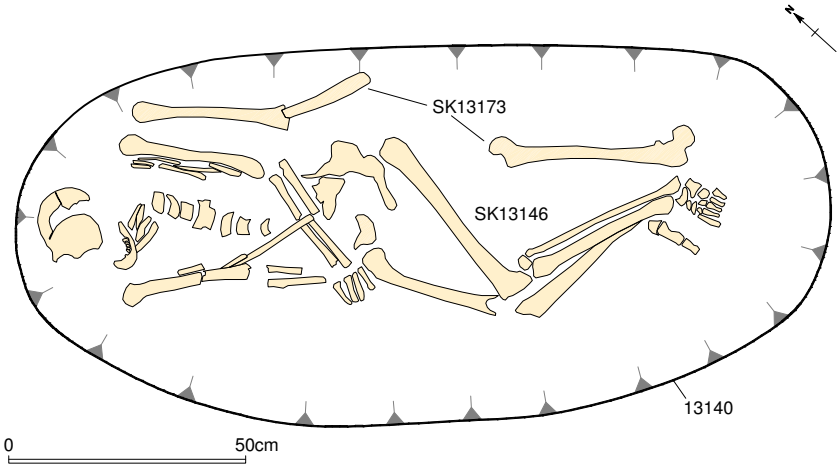


Figure 3.132: Bainesse Cemetery: plan of Grave 197.

The south-eastern end of this grave was truncated by ring ditch **12500**, which had removed the toes of the primary burial (Skeleton 13146). The bones that comprised Skeleton 13173 (a femur and two tibiae, which were found laid alongside Skeleton 13146, and two fibulae from backfill **13139**) almost certainly derived from Skeleton 13152 in Grave **198**, which had been truncated by Grave **197**.

Table 3.185: grave catalogue for Grave 197.

Grave cut 13140	
Orientation	SE-NW
Max. dimensions	L: 1.70m, W: 0.82m, D: 0.53m
Associated contexts	Grave fill 13139
Skeleton 13146 (197a)	
Orientation	Head to NW
Posture	Supine; head face up; legs semi-flexed at hip and knee to the right, knees and feet together
Arm position	Both arms flexed at elbow, left hand by right hip, right hand in pelvis.
Sex	Male
Age	36+
Completeness	95%
Preservation	Moderate
Dental pathology	AMTL, calculus, caries, DEH
Pathology	DISH; sacroiliitis with unilateral (right) fusion; cribra orbitalia; DJC at sternomanubrial joint, TMJ, clavicles, right and left glenoid, proximal humeri, proximal left radius, ulnae, femora, tibiae, feet; possible residual rickets; osteochondritis in distal tibia
Stature (mm)	1711.7±40.5
C14 date	cal AD256–298 (11.4%), cal AD319–424 (84.0%) (1678±32BP, SUERC-67716/GU41069)
	cal AD260–300 (8%), cal AD320–420 (87%)
Skeleton 13173 (197b)	
Orientation	Bones laid alongside SK13146
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	20%
Preservation	Moderate
Dental pathology	-
Pathology	Lamellar bone on lateral mid shafts of tibiae
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF11725 iron nail x1; magnetic mattter; hammerscale
Environmental	Charcoal: *Quercus* (oak)
	Charred plant remains: *Triticum* sp. (wheat); *Pisum* sp. (garden pea); undet. cerealia
Interpretative date	AD260–420

GRAVE 198

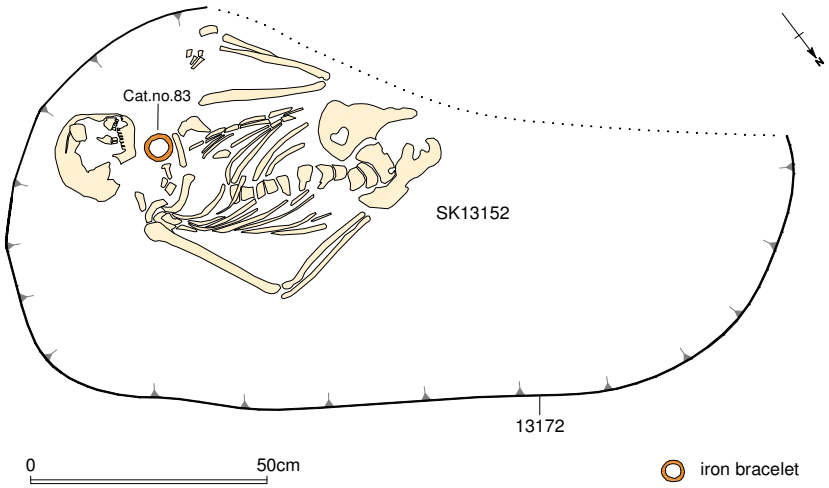


Figure 3.133: Bainesse Cemetery: plan of Grave 198.

The extra leg bones recovered from Grave **197**, which truncated this burial, almost certainly represented most of the missing lower half of Skeleton 13152. A femur recovered from fill **12507** in ring ditch **12323** (group **12500**) could also have been part of the same individual.

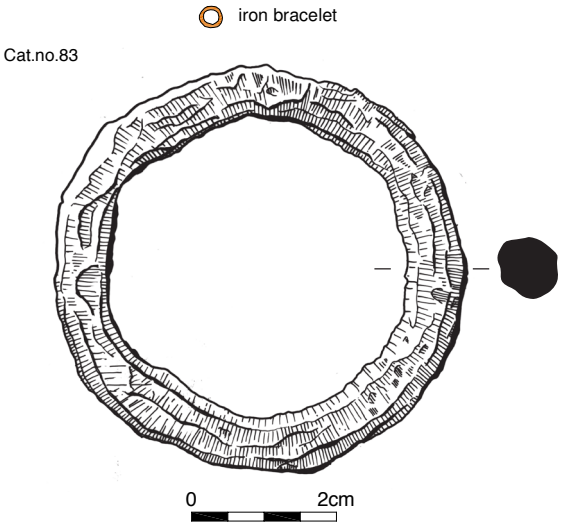


Figure 3.134 (right): Bainesse Cemetery: iron bracelet from Grave 198.

Table 3.186: grave catalogue for Grave 198.

Grave cut 13172	
Orientation	SE-NW
Max. dimensions	L: 1.62m, W: 1.00m, D: 0.38m
Associated contexts	Grave fill 13151
Skeleton 13152	
Orientation	Head to SE
Posture	Supine; head facing right; torso and pelvis tilted slightly right
Arm position	Both arms flexed at elbow, left hand by left shoulder, right hand in pelvis
Sex	Probable male
Age	26–35
Completeness	60%
Preservation	Moderate
Dental pathology	AMTL, calculus, caries, DEH, periodontal disease, abscess
Pathology	Sinusitis; spondylolysis in L5; cranial border shift of lumbar thoracic border; DJC in right mandible, distal left humerus; Schmorl's nodes in thoracic and lumbar spine
Stature (mm)	-
C14 date	cal AD142–160 (2.2%), cal AD166–196 (4.4%), cal AD209–358 (86.7%), cal AD365–380 (2.2%) (1764±32BP, SUERC-67717/GU41070)
	cal AD240–380
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 83 iron bracelet
Other finds	Pottery sherd x1 (Fabric BB1); RF11768 iron nail x1; cinder; magnetic matter
Environmental	Charcoal: Fraxinus/Quercus (ash/oak)
	Charred plant remains: *Triticum aestivum* (bread wheat); *Triticum spelta* (spelt); *Triticum* sp. (wheat); undet. cerealia; Poaceae undet. 2–5mm; *Viola* sp. (violet)
Interpretative date	AD240–380

GRAVE 199

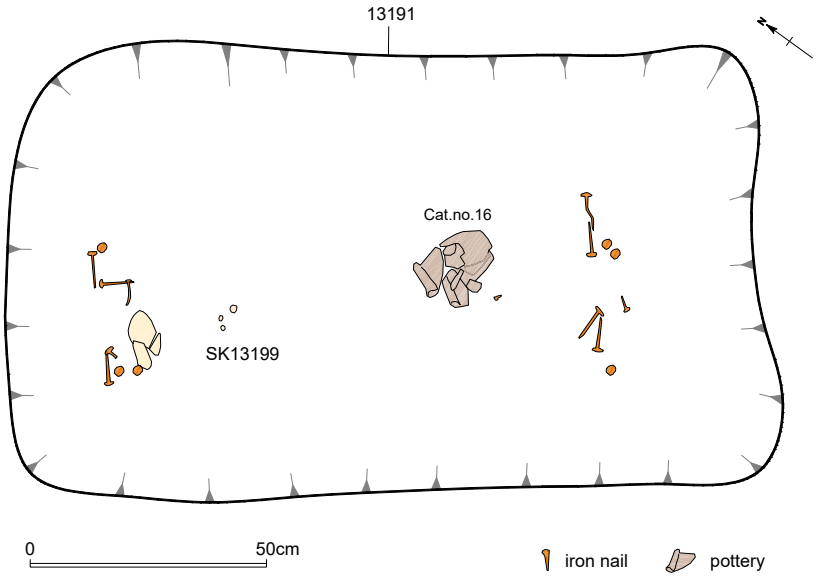


Figure 3.135: Bainesse Cemetery: plan of Grave 199.

The upper part of this grave was truncated, first by Grave **198** then by Grave **197**. The coffin, which measured approximately 1.10m by 0.37m by at least 0.15m high, contained a minimum of 17 nails, with 17mm and 20mm thick planks. The placed jar was located within the coffin towards the foot end, probably adjacent to the presumed position of the knees, and had probably been broken by the grave fill collapsing through the decayed lid.

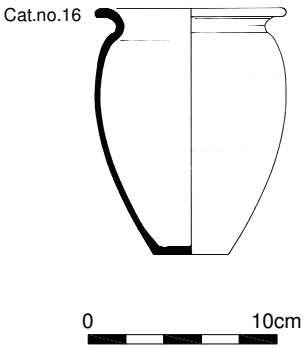


Figure 3.136: Bainesse Cemetery: placed ceramic vessel from Grave 199.

Table 3.187: grave catalogue for Grave 199.

Grave cut 13191	
Orientation	SE-NW
Max. dimensions	L: 1.60m, W: 1.00m, D: 0.87m
Associated contexts	Grave fill 13190
Skeleton 13199	
Orientation	Head to NW
Posture	-
Arm position	-
Sex	-
Age	3–4
Completeness	10%
Preservation	Very poor
Dental pathology	DEH on permanent dentition
Pathology	-
Stature (mm)	-
C14 date	cal AD137–356 (93.9%), cal AD367–377 (1.5%) (1831±26BP, SUERC-75897/GU45469)
	cal AD170–330
Grave contents	
Coffin	RF11800–5, RF11824–33 iron nails x17 (minimum)
Ceramic vessel	Cat. no. 16 reduced coarseware jar (copying early to mid-3rd century AD black-burnished ware)
Grave goods	Cat. no. 353 hobnail x1 possibly representing disturbed hobnailed footwear
Other finds	Magnetic matter; coal; hammerscale
Environmental	Charred plant remains: undet. cerealia
Interpretative date	AD200–330

GRAVE 200

Grave **200** was truncated by ring ditch **12500**.

Table 3.188: grave catalogue for Grave 200.

Grave cut 12483	
Orientation	SSE-NNW
Max. dimensions	L: >0.65m, W: 0.75m, D: 0.40m
Associated contexts	Secondary grave fill 12484; primary grave fill 12496
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12484: magnetic matter; hammerscale; cremated human bone; unidentified burnt bone
Environmental	Context 12496: charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD260–400

GRAVE 201

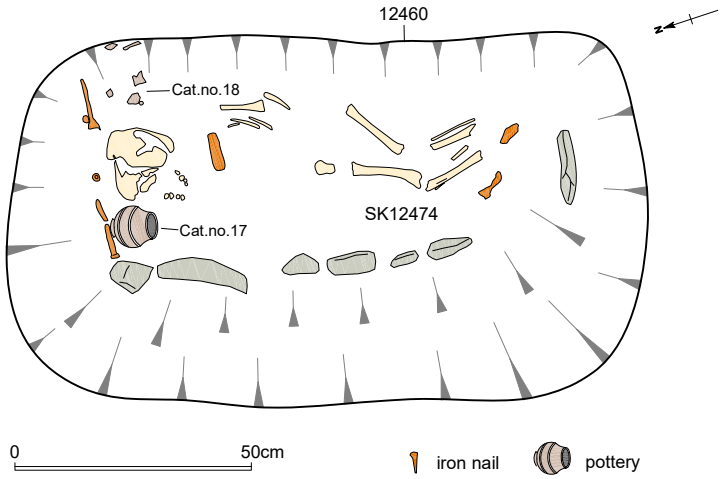


Figure 3.137: Bainesse Cemetery: plan of Grave 201.

The incomplete coffin in this grave measured approximately 0.90m by 0.35m by at least 0.10m high and contained a minimum of 15 nails. The Nene Valley beaker (Cat. no. 18) appeared to have been placed adjacent to the left of the head, mirroring the position of the oxidised ware beaker (Cat. no. 17) to the right; however, the former had been heavily disturbed due to truncation by ring ditch **12500**. Sherds of a black-burnished ware jar (Cat. no. 19), which has also been disturbed by the ring ditch, probably represented a third placed vessel. A row of cobbles within fill **12467** appeared to be abutting the west side of the coffin and possibly representing the initial selection of the larger stones from the upcast that were used to carefully backfill the grave so as not to damage the coffin.

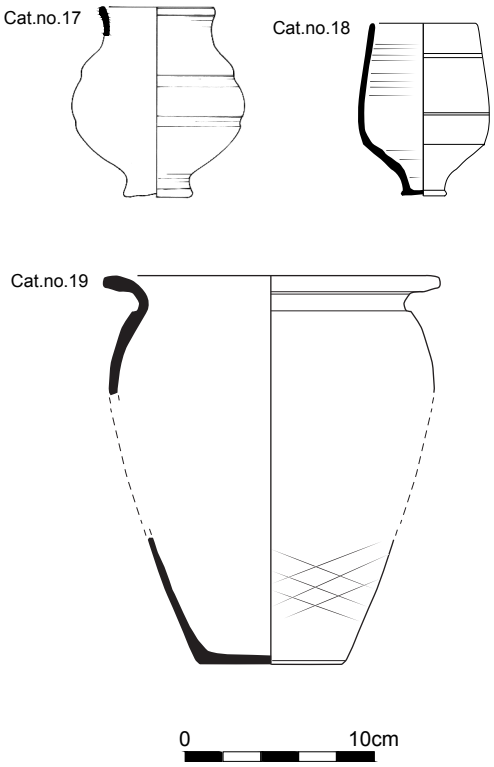


Figure 3.138 (right): Bainesse Cemetery: placed ceramic vessels from Grave 201.

Table 3.189: grave catalogue for Grave 201.

Grave cut 12460	
Orientation	N-S
Max. dimensions	L: 1.35m, W: 0.70m, D: 0.62m
Associated contexts	Secondary grave fill 12462; primary grave fill 12467; coffin fill 12468
Skeleton 12474	
Orientation	Head to N
Posture	Supine; head facing right; legs semi-flexed right
Arm position	-
Sex	-
Age	c.3
Completeness	30%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	Torsion and exaggerated bowing of right femur-rickets; exaggerated lip at lateral proximal side of right tibia-likely rickets
Stature (mm)	-
C14 date	cal AD133–263 (70.0%), cal AD276–329 (25.4%) (1791±29BP, SUERC-72984/GU43667)
	cal AD205–385
Grave contents	
Coffin	RF667–76, RF11977 iron nails x15 (minimum)
Ceramic vessel	Context 12468: Cat. no. 17 oxidised ware beaker; Cat. no. 18 disturbed Nene Valley ware beaker (c.AD200–250)
	Context 12462: Cat. no. 19 disturbed black-burnished ware jar (c.AD230–270)
Grave goods	-
Other finds	Context 12467: pottery sherds x1 (Fabric GRB50); pottery sherds x1 (Fabric GRC); pottery sherds x6 (Fabric BB1); magnetic matter; hammerscale
	Context 12468: pottery sherds x1 (Fabric OAA3); RF13594 iron strip; magnetic matter; hammerscale
Environmental	Context 12467: charcoal: Maloideae (pomaceous wood)
	Context 12462: charred plant remains: *Hordeum* (hulled barley); *Triticum* sp. (wheat); undet. cerealia
	Context 12468: charred plant remains: *Triticum* sp. (wheat); *Triticum spelta* (spelt); *Triticum aestivum* (bread wheat); Poaceae undet. 2–5mm
Interpretative date	AD230–385

GRAVE 202

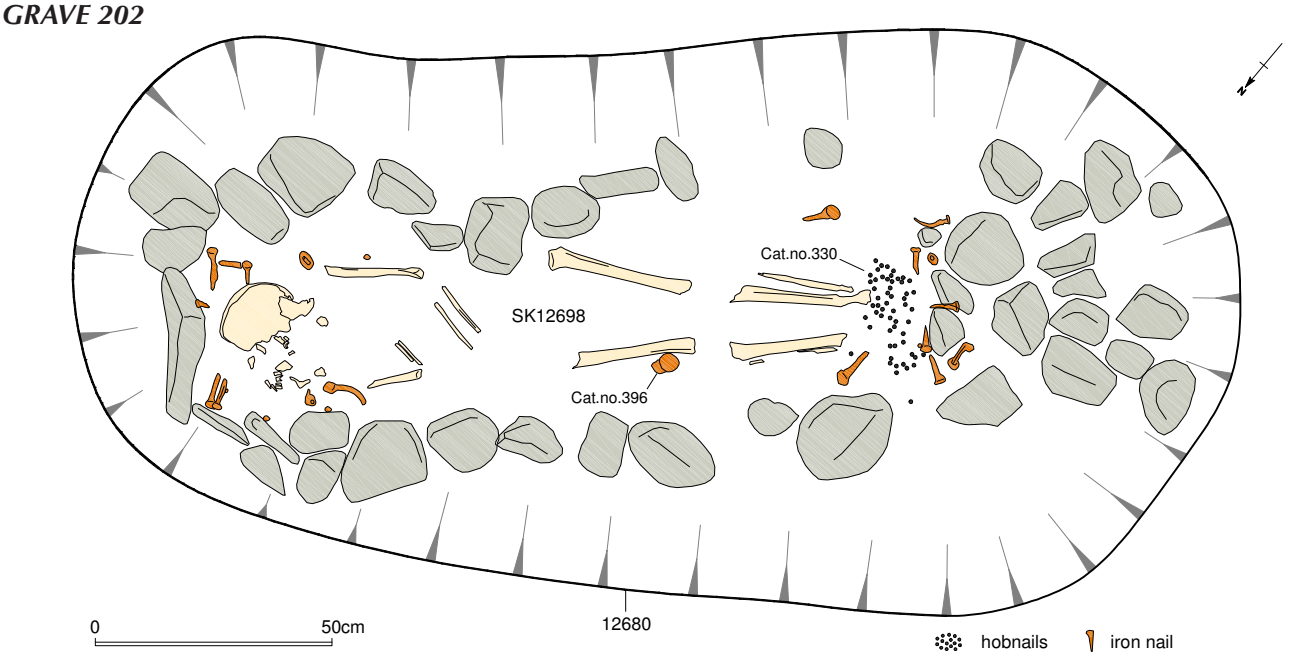


Figure 3.139: Bainesse Cemetery: plan of Grave 202.

The coffin in this grave measured approximately 1.60m by 0.35m by at least 0.12m high and contained at least 21 nails and a double-spiked loop. It was constructed using c.20–25mm thick planks. The individual was interred wearing nailed footwear that contained a minimum of 106 hobnails. The deposit of cobbles (**12968**) was recorded abutting the outside of the coffin and possibly represented the initial selection of the larger stones from the upcast that were used to carefully backfill the grave so as not to damage the coffin.

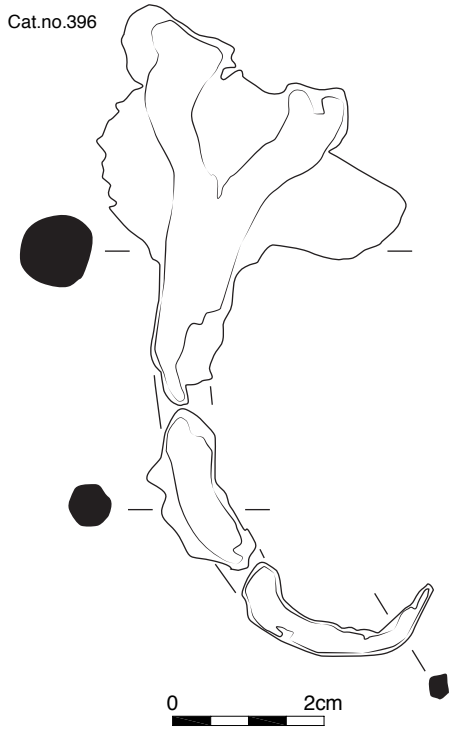


Figure 3.140 (right): Bainesse Cemetery: double-spiked iron loop from Grave 202.

Table 3.190: grave catalogue for Grave 202.

Grave cut 12680	
Orientation	ENE-WSW
Max. dimensions	L: 2.60m, W: 1.20m, D: 0.78m
Associated contexts	Grave fill 12681; grave fill around coffin 12690; coffin fill 12712; cobbles 12733
Skeleton 12698	
Orientation	Head to ENE
Posture	Supine; head tilted right; legs extended, parallel
Arm position	Both arms flexed at elbow, hands over torso
Sex	-
Age	18+
Completeness	30%
Preservation	Very poor
Dental pathology	Calculus, DEH
Pathology	Woven bone along posterior endocranial sagittal suture
Stature (mm)	-
C14 date	cal AD85–234 (95.4%) (1852±29BP, SUERC-73007/GU43688)
	cal AD150–265 (91%), cal AD280–320 (4%)
Grave contents	
Coffin	Context 12690: RF10405, RF10458 iron nails x5 (minimum)
	Context 12712: RF10392–404, RF10408–10, RF10412, RF10414, RF13600 iron nails x16 (minimum); Cat. no. 396 double-spiked iron loop
Ceramic vessel	-
Grave goods	Cat. no. 330 nailed footwear represented by x102 hobnails: RF10459 (left), RF10460 (right), RF13692 (unlocated)
Other finds	Context 12681: pottery sherd x1 (Fabric NV1) dated 3rd century AD; chert debitage x1
	Context 12690: magnetic matter; hammerscale
	Context 12712: cremated human bone; pottery sherd x1 (Fabric NV1) dated 3rd century AD; flint debitage x1; magnetic matter
	Context 12698(SK): other disarticulated human bone
Environmental	Context 12681: charred plant remains: *Triticum* sp. (wheat)
	Context 12712: charred plant remains: *Triticum dicoccum* (emmer); *Hordeum* (hulled barley)
Interpretative date	AD200–320

GRAVE 203

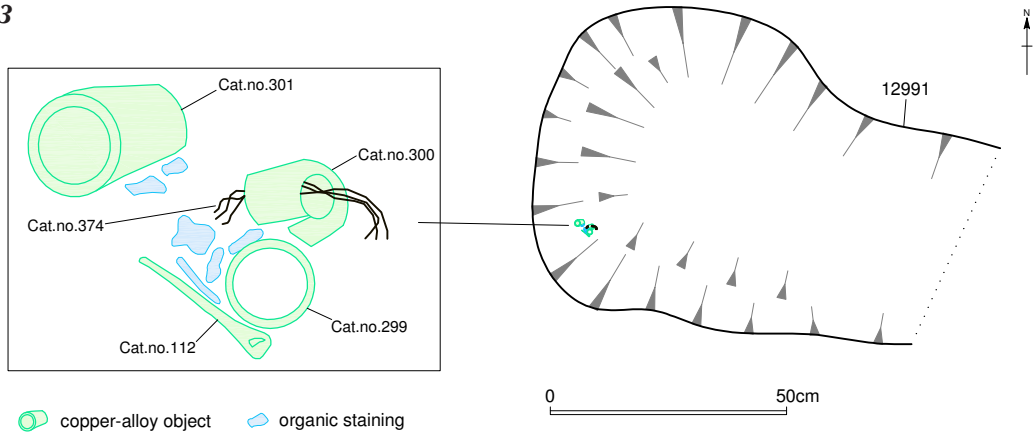
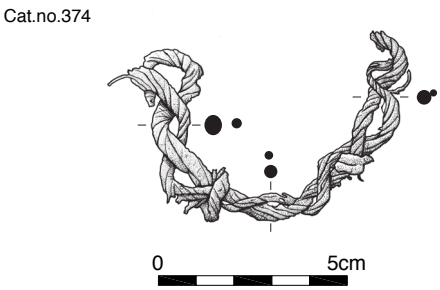


Figure 3.141: Bainesse Cemetery: plan of Grave 203.

Secondary fill **13004**, which contained the small group of associated grave goods, was a discrete deposit located in the south-west corner of the grave and 0.30m above the base. This indicated that it was not a primary element of the burial. It is suggested that this was either introduced during the backfilling or was dug into the grave later. The club moss string (Cat. no. 374) was found still threaded through one of the copper-alloy beads. Some organic staining associated with the finds provided evidence that they may have been enclosed in a bag or other receptacle at the point of deposition.



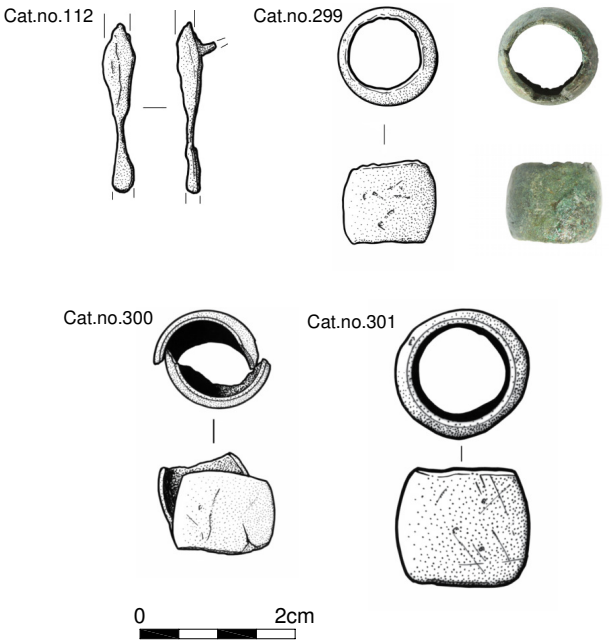


Figure 3.142: Bainesse Cemetery: copper-alloy beads and pendant (above), and club moss string (left), from Grave 203.

Table 3.191: grave catalogue for Grave 203.

Grave cut 12991	
Orientation	E-W
Max. dimensions	L: >0.95m, W: 0.65m, D: 0.37m
Associated contexts	Primary grave fill 12992; secondary grave fill 13004
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Context 13004: Cat. nos 299–301 copper-alloy beads x3, Cat. no. 112 copper-alloy possible pendant, Cat. no. 374 club moss string
Other finds	Context 12992: hammerscale
Environmental	-
Interpretative date	AD80–320

GRAVE 204

Grave fill **12776** included a rough cobble lining, which was one of nine similar deposits recorded in graves within the cemetery. In five of these graves the deposits surrounded nailed coffins, while in the remaining four, including this burial, there was no material evidence of a coffin. However, the stone lining perhaps suggests the presence of an un-nailed coffin.

Table 3.192: grave catalogue for Grave 204.

Grave cut 12775	
Orientation	SE-NW
Max. dimensions	L: 2.20m, W: 1.05m, D: 0.64m
Associated contexts	Grave fill 12776
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric TRIER)
Environmental	-
Interpretative date	AD200–300

GRAVE 205

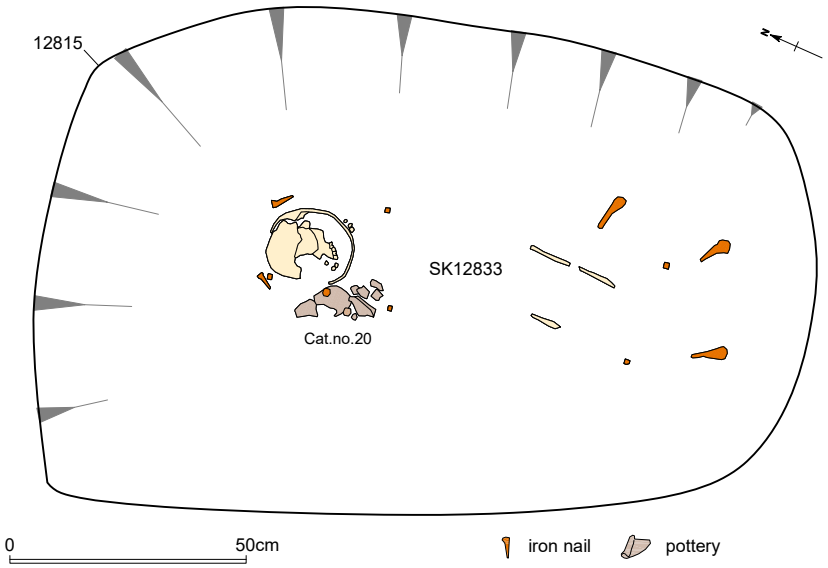


Figure 3.143: Bainesse Cemetery: plan of Grave 205.

The coffin in this grave measured approximately 1.00m by 0.38m by at least 0.21m high and contained a minimum of eight nails. It was constructed using c.30mm thick planks. The jar (Cat. no. 20) had been placed within the coffin adjacent to the right side of the skull and had subsequently been disturbed by Grave **206**. This was demonstrated by the presence of three sherds of this vessel in the fill this grave, suggesting that these had been redeposited. A single fragment of bone, which was attributed to Grave **206** and designated as Skeleton 12856, was subsequently identified as part of Skeleton 12833 in Grave **205**. Furthermore, coffin nails RF11213–5, which were also originally attributed to Grave **206**, almost certainly belonged in Grave **205**. These were either in situ or slightly disturbed.

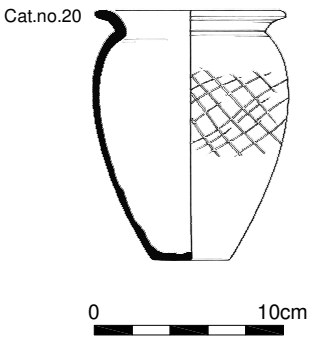


Figure 3.144: Bainesse Cemetery: placed ceramic vessel from Grave 205.

Table 3.193: grave catalogue for Grave 205.

Grave cut 12815	
Orientation	N-S
Max. dimensions	L: 1.68m, W: 1.08m, D: 0.48m
Associated contexts	Coffin fill 12816; grave fill 12832
Skeleton 12833	
Orientation	Head to N
Posture	Supine; head tilted right; legs extended, parallel
Arm position	-
Sex	-
Age	c.4
Completeness	<10%
Preservation	Poor
Dental pathology	DEH
Pathology	Cribra orbitalia in left orbit
Stature (mm)	-
C14 date	cal AD136–263 (65.6%), cal AD276–329 (29.8%) (1787±25BP, SUERC-72985/GU43669)
	cal AD210–385
Grave contents	
Coffin	Context 12816: RF11205–12, ?plus RF11213–5 iron nails x8 (minimum) (see Discussion/ Comments below)
Ceramic vessel	Cat. no. 20 reduced coarseware jar (AD200–280)
Grave goods	-
Other finds	Context 12816: pottery sherd x1 (Fabric OBB1); magnetic matter; hammerscale; flint debitage x2
Environmental	Context 12816: charcoal: *Quercus* (oak); *Corylus* (hazel); undet. hardwood
	Context 12816: charred plant remains: *Triticum* sp. (wheat); *Triticum aestivum* (bread wheat); Poaceae undet. 2–5mm
	Context 12832: charcoal: undet. hardwood
	Context 12832: charred plant remains: *Triticum* sp. (wheat); Poaceae undet. 2–5mm
Interpretative date	AD210–385

GRAVE 206

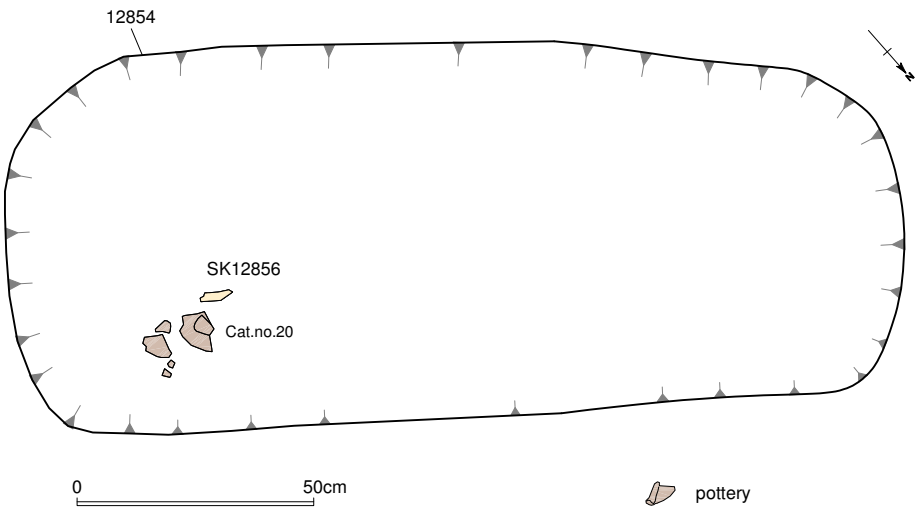


Figure 3.145: Bainesse Cemetery: plan of Grave 206.

Table 3.194: grave catalogue for Grave 206.

Grave cut 12854	
Orientation	SE-NW
Max. dimensions	L: 1.94m, W: 0.81m, D: 0.48m
Associated contexts	Grave fill 12855/12858
Skeleton 12856	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	-
Completeness	<5%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF11213–5 iron nails x2 and x1 iron nail shank; pottery sherds from Cat. no. 20 in Grave 205; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD210–400

GRAVE 208

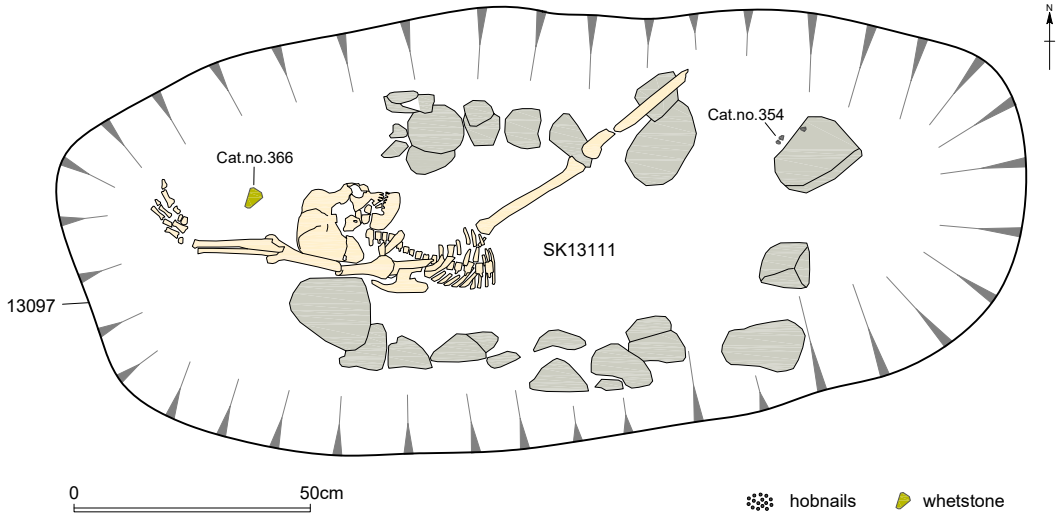


Figure 3.146: Bainesse Cemetery: plan of Grave 208.

Grave **208** appeared to have been disturbed. The lower part of Skeleton 13111 was absent, despite the upper part surviving in good condition, and both arms were in somewhat unusual positions. The presence of three hobnails towards the foot end of the grave may be an indication of disturbed footwear. The primary fill included a deposit of cobbles surrounding the skeleton, which is one of nine similar deposits recorded in graves within the cemetery. As there was no material evidence of a coffin, the position of the cobble lining suggests that an un-nailed coffin may have been present.

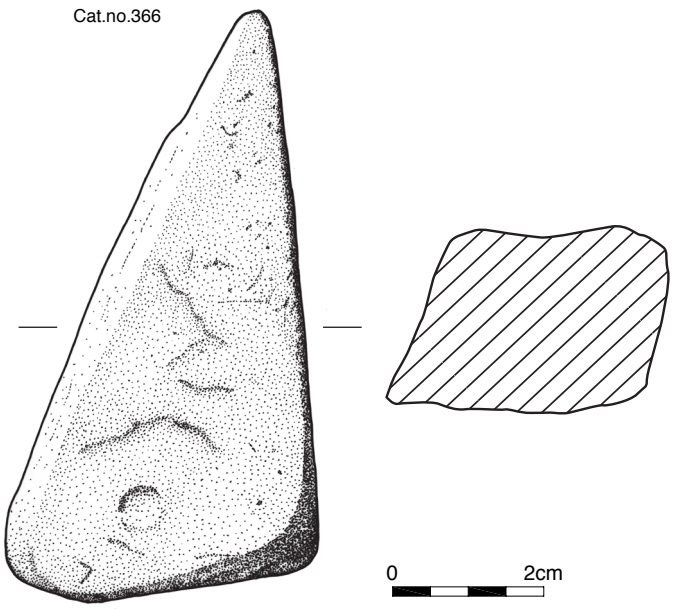


Figure 3.147 (right): Bainesse Cemetery: whetstone from Grave 208.

Table 3.195: grave catalogue for Grave 208.

Grave cut 13097	
Orientation	E-W
Max. dimensions	L: 2.12m, W: 0.90m, D: 0.55m
Associated contexts	Tertiary grave fill 13098; secondary grave fill 13110; primary grave fill 13112
Skeleton 13111	
Orientation	Head to W
Posture	On left side; head facing left
Arm position	Right superiorly extended beyond head, elbow raised; left laterally extended, angled away from torso
Sex	Male
Age	36–45
Completeness	50%
Preservation	Good
Dental pathology	AMTL, calculus, DEH, periodontal disease
Pathology	Sinusitis; cribra orbitalia; hypervascularity on orbital rims and cranial vault; OA at proximal left humerus; DJC in humeri, radii, right ulna, right hand, in cervical and thoracic spine; hypervascular new bone in palate; cyst in right acetabular rim
Stature (mm)	1709±40.5
C14 date	cal AD261–279 (2.7%), cal AD326–433 (85.1%), cal AD460–466 (0.5%), cal AD489–533 (7.1%) (1655±32BP, SUERC-67714/GU41067)
	cal AD345–455
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 354 possible nailed footwear represented by a clump of 3 hobnails RF11723 at foot end; Cat. no. 366 whetstone (possibly an accidental inclusion)
Other finds	Context 13098: cremated human bone; pottery sherd x1 (Fabric BB1); pottery sherd x1 (Fabric GRC11) dated AD250/70–350; magnetic matter; hammerscale; clinker
	Context 13110: magnetic matter; hammerscale
	Context 13112: cremated human bone; RF11766–7 iron nails x2; pottery sherds x5 (Fabric GRB8); magnetic matter; hammerscale
Environmental	Context 13098: charcoal: undet. hardwood
	Context 13098: charred plant remains: *Triticum* sp. (wheat); Fabaceae undet.
	Context 13110: charred plant remains: *Hordeum* (hulled barley)
	Context 13112: charcoal: *Viburnum* (guelder-rose); Maloideae (pomaceous wood); undet. hardwood
	Context 13112: charred plant remains: *Triticum* sp. (wheat); *Hordeum* (hulled barley); *Triticum spelta* (spelt); *Lens* sp. (lentil); undet. cerealia: Fabaceae undet.
Interpretative date	AD345–455

GRAVE 209

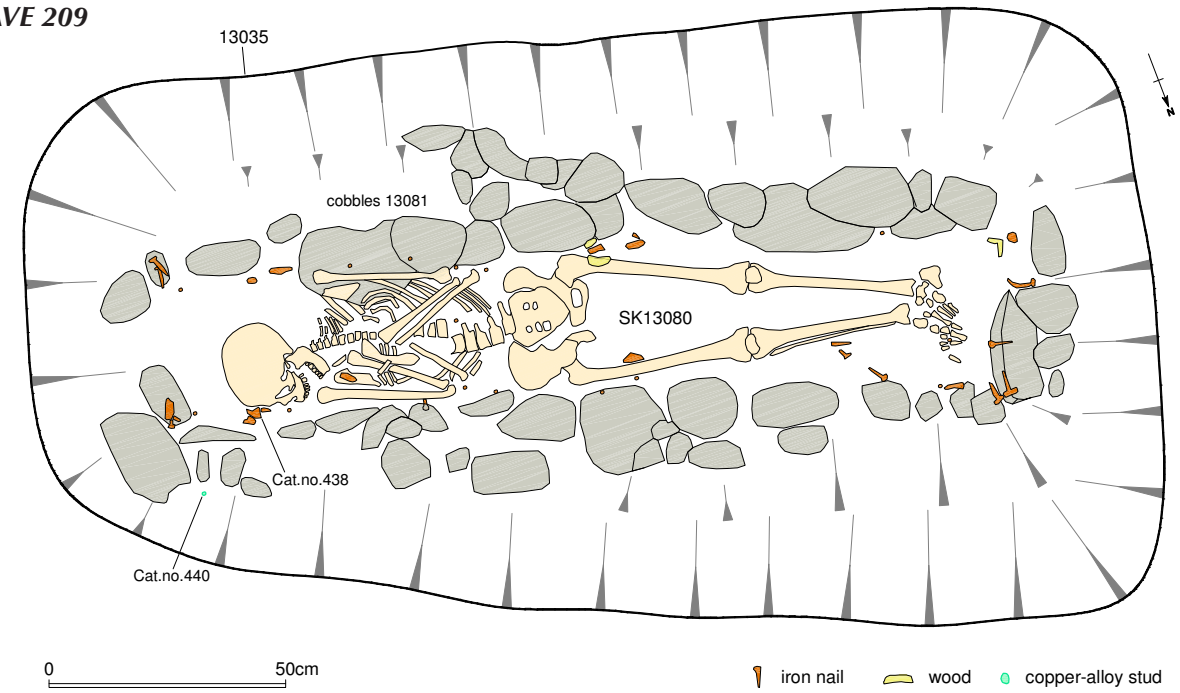


Figure 3.148: Bainesse Cemetery: plan of Grave 209.

Table 3.196: grave catalogue for Grave 209.

Grave cut 13035	
Orientation	ESE-WNW
Max. dimensions	L: 2.40m, W: 1.30m, D: 0.90m
Associated contexts	Tertiary grave fill 13036; coffin fill 13065; secondary grave fill 13073; cobbles around coffin 13081; primary grave fill 13128
Skeleton 13080	
Orientation	Head to ESE
Posture	Supine; head facing right; legs extended, feet together
Arm position	Both arms tightly flexed at elbow, hands over torso
Sex	Female
Age	26–35
Completeness	95%
Preservation	Moderate
Dental pathology	Calculus, caries, abscess, periodontal disease
Pathology	Woven bone on anterior distal radius shaft, on vertebral ends of right ribs, on right and left tibiae shafts; DJC on all rib tubercles; manubrium fused to sternum; DJC in humeri, radii, femora, tibiae, right fibula; OA in cervical spine and right ribs; cribra orbitalia; sinusitis
Stature (mm)	1569±35.5
C14 date	cal AD405–549 (95.4%) (1581±32BP, SUERC-67712/GU41065)
	cal AD410–470
Grave contents	
Coffin	Context 13065: Cat. no. 438 iron T-clamp; RF11662–75, RF11687–93, RF11703–12, RF11715–19 (many with mineralised wood) iron nails x35 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 13036: Cat. no. 440 copper-alloy stud; disarticulated human bone; pottery sherds x2 (Fabric BB1); pottery sherd x1 (Fabric GRA6); magnetic matter; hammerscale
	Context 13065: hammerscale; chert core x1
	Context 13073: hammerscale
Environmental	Context 13065: charcoal: *Quercus* (oak)
	Context 13065: charred plant remains: *Triticum* sp. (wheat); *Avena fatua* (wild oat)
	Context 13036: charred plant remains: *Triticum* sp. (wheat); Poaceae undet. 2–5mm
Interpretative date	AD410–470

The coffin in Grave **209** measured approximately 1.85m by 0.32m by at least 0.40m high and contained a minimum of 35 nails and a T-shaped clamp. The planks used in its construction included thicknesses of 12, 15, 25, 30 and 35mm. The deposit of cobbles (**13081**) recorded abutting the outside of the coffin was possibly the result of the selection of the larger stones from the upcast that were used to carefully backfill the grave so as not to damage the coffin.

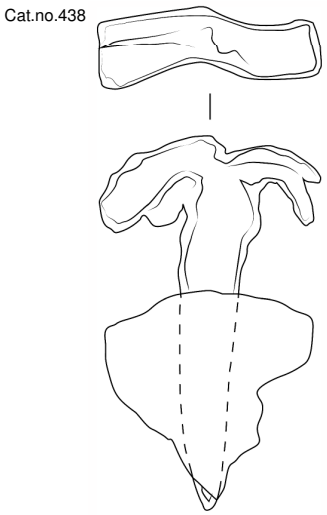


Figure 3.149 (right): Bainesse Cemetery: iron T-clamp and copper-alloy stud from Grave 209.

GRAVE 210

Table 3.197: grave catalogue for Grave 210.

Grave cut 12475	
Orientation	E-W
Max. dimensions	L: 1.56m, W: 1.10m, D: 0.58m
Associated contexts	Secondary grave fill 12476; primary grave fill 12482
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 12476: cremated human bone; burnt animal bone
	Context 12482: magnetic matter; hammerscale
Environmental	Context 12476: charcoal: *Quercus* (oak); undet. hardwood
	Context 12482: charred plant remains: *Triticum spelta* (spelt); undet. cerealia
Interpretative date	-

GRAVE 211

Table 3.198: grave catalogue for Grave 211.

Grave cut 13331	
Orientation	SSE-NNW
Max. dimensions	L: 1.56m, W: 0.76m, D: 0.47m
Associated contexts	Grave fill 13332
Skeleton: none	
Grave contents: none	

GRAVE 213

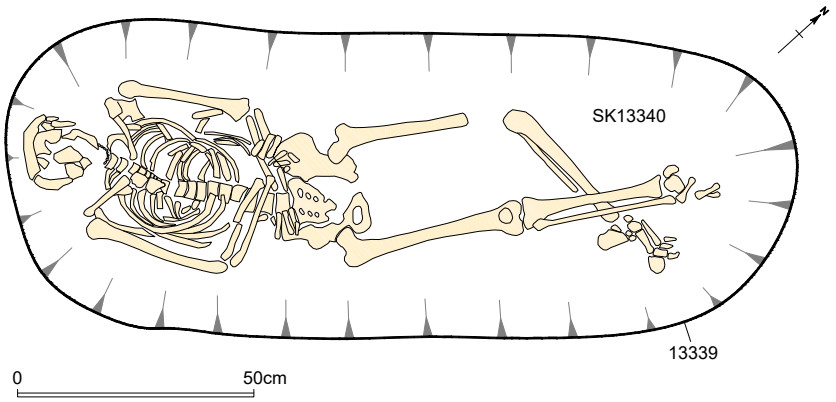


Figure 3.150: Bainesse Cemetery: plan of Grave 213.

Table 3.199: grave catalogue for Grave 213.

Grave cut 13339	
Orientation	NE-SW
Max. dimensions	L: 1.80m, W: 0.95m, D:0.52m
Associated contexts	Grave fill 13338
Skeleton 13340	
Orientation	Head to SW
Posture	Supine; head almost upright, facing forwards; right leg extended, left leg flexed at knee, beneath right leg
Arm position	Flexed at elbows, hands in pevis
Sex	Female
Age	36–45
Completeness	90%
Preservation	Poor
Dental pathology	Calculus, caries, DEH, periodontal disease, left mandibular third molar still erupting/impacted
Pathology	Possible sacroiliitis; lamellar bone on femora shafts; DJC in right hand, fibulae, tarsals
Stature (mm)	1532±36.6
C14 date	cal AD145–150 (0.4%), cal AD170–194 (2.5%), cal AD211–385 (92.5%) (1758±32BP, SUERC-67733/GU41080)
	cal AD230–400
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD230–400

GRAVE 214

Table 3.200: grave catalogue for Grave 214.

Grave cut 13123	
Orientation	SSE-NNW
Max. dimensions	L: 1.60m, W: 0.75m, D: 0.35m
Associated contexts	Grave fill 13122
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; clinker; magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
Interpretative date	-

GRAVE 215

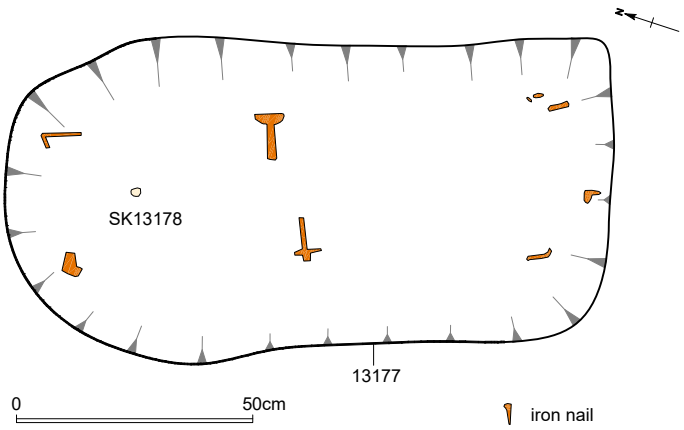


Figure 3.151: Bainesse Cemetery: plan of Grave 215.

The coffin in this grave measured approximately 1.10m by 0.30m by at least 0.08m high and contained a minimum of three to eight nails. The sherds of Nene Valley beaker (Cat. no. 21) were dispersed and were not considered to have been broken in situ; therefore, their location within the grave was not recorded. It is possible they represented redeposited grave goods from an earlier burial or sherds of a broken vessel from the ground surface.

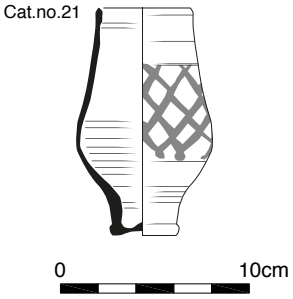


Figure 3.152: Bainesse Cemetery: redeposited ceramic vessel from Grave 215.

Table 3.201: grave catalogue for Grave 215.

Grave cut 13177	
Orientation	SSE-NNW
Max. dimensions	L: 1.27m, W: 0.70m, D: 0.28m
Associated contexts	Grave fill 13179
Skeleton 13178	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	Non-adult, 4+
Completeness	<5%—dentition only
Preservation	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	RF11735, RF11738–9, RF11741–5 iron nails x3–8 (minimum)
Ceramic vessel	Cat. no. 21 Nene Valley ware incomplete beaker (c.AD220–260)
Grave goods	Cat. no. 355 hobnails x3 possibly representing disturbed hobnailed footwear
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: *Quercus* (oak); *Cornus* (dogwood); Maloideae (pomaceous wood); undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat): *Triticum spelta* (spelt); Poaceae undet. 2–5mm
Interpretative date	AD220–300

GRAVE 216

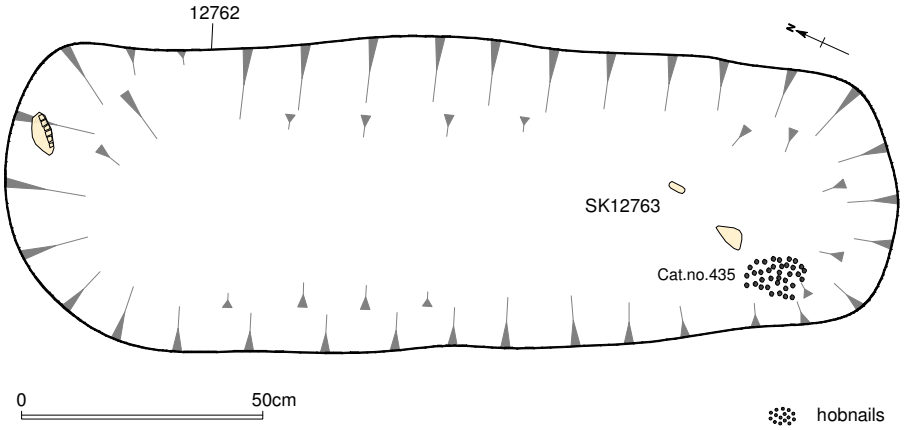


Figure 3.153: Bainesse Cemetery: plan of Grave 216.

The pattern of hobnails in this grave suggested a single item of footwear was present, with no indication as to whether it was being worn at the time of interment.

Table 3.202: grave catalogue for Grave 216.

Grave cut 12762	
Orientation	SSE-NNW
Max. dimensions	L: 1.85m, W: 0.63m, D: 0.28m
Associated contexts	Grave fill 12764
Skeleton 12763	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Moderate
Dental pathology	Calculus
Pathology	-
Stature (mm)	-
C14 date	cal AD421–570 (95.4%) (1555±30BP, SUERC-74409/GU44475)
	cal AD410–470
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 435 nailed footwear represented by x69 (minimum) hobnails
Other finds	Magnetic matter
Environmental	Charcoal: Maloideae (pomaceous wood)
	Charred plant remains: *Hordeum* (hulled barley); undet. cerealia
Interpretative date	AD410–470

GRAVE 217

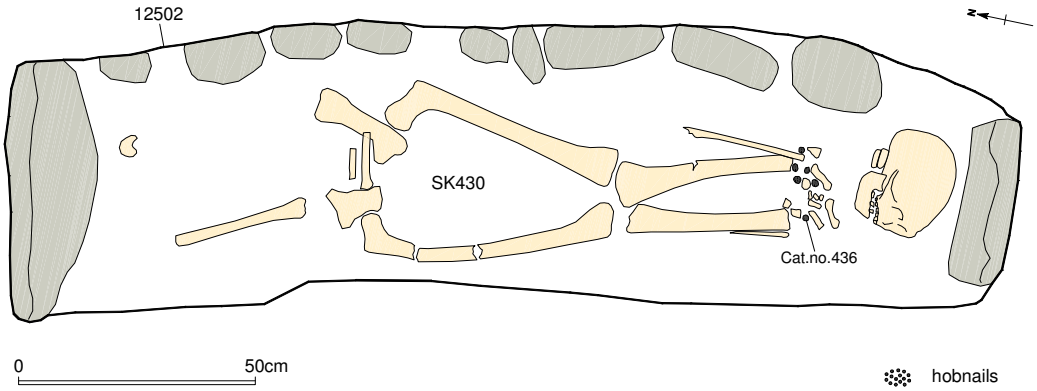


Figure 3.154: Bainesse Cemetery: plan of Grave 217.

This burial was excavated in 2005 as part of an archaeological evaluation. Therefore, the grave fill and skeleton numbers provided are from the numeration used at that time. The skeleton had been decapitated and the skull placed beyond the feet. This was one of only two decapitations recorded within the cemetery. A partial cist had been constructed, comprising an upright stone slab at each end of the grave, a row of cobbles along the east side, and stone capping slabs. The individual was wearing nailed footwear containing a minimum of 85 hobnails.

Table 3.203: grave catalogue for Grave 217.

Grave cut 12502 (431 in evaluation numeration)	
Orientation	SSE-NNW
Max. dimensions	L: 2.10m, W: 0.58m, D: 0.30m
Associated contexts	Capping stones 424, grave fill 428, organic? stain 441(all evaluation numeration)
Skeleton 430 (evaluation numeration)	
Orientation	Feet towards SSE end with skull placed beyond them
Posture	Supine; legs extended, knees and feet together
Arm position	Right arm extended alongside torso, lower left slightly flexed at elbow
Sex	Male
Age	26-35
Completeness	50%
Preservation	Poor
Dental pathology	Calculus, caries, periodontal disease
Pathology	-
Stature (mm)	-
C14 date	cal AD426–566 (95.4%) (1550±25BP, SUERC-20369/GU17288, SUERC-39626/GU26851)
	cal AD420–465
Grave contents	
Stone cist	Partial stone cist
Ceramic vessel	-
Grave goods	Cat. no. 436 nailed footwear represented by x85 (minimum) hobnails
Other finds	RF13710–14 iron nails x5 (minimum)
Environmental	-
Interpretative date	AD420–465

GRAVE 218

Table 3.204: grave catalogue for Grave 218.

Grave cut 12503	
Orientation	E-W
Max. dimensions	L: 1.92m, W: 0.93m, D: 0.24m
Associated contexts	Grave fill 12504
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF688 iron nail x3; ferrous slag
Environmental	Charcoal: undet. hardwood
Interpretative date	AD200–400

GRAVE 219

Table 3.205: grave catalogue for Grave 219.

Grave cut 13193	
Orientation	SSE-NNW
Max. dimensions	L: 1.38m, W: 0.68m, D: 0.46m
Associated contexts	Grave fill 13195
Skeleton 13194	
Orientation	Head to NNW
Posture	-
Arm position	-
Sex	-
Age	3–4
Completeness	5%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD142–379 (95.4%) (1828±29BP, SUERC-75896/GU45464)
	cal AD170–380
Grave contents	
Coffin	RF11806–8, RF11810–12, RF11814–19, RF11821–2, RF11835–6, RF11840–3 iron nails x13 (minimum)
Ceramic vessel	Cat. no. 22 Trier black-slip beaker (AD200–275); Cat. no. 23 Trier black-slip beaker (AD200–275)
Grave goods	Cat. no. 331–332 nailed footwear represented by x35 (minimum) hobnail and possible second pair of nailed shoes represented by x40 (minimum) hobnails
Other finds	Magnetic matter; hammerscale
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD200–380

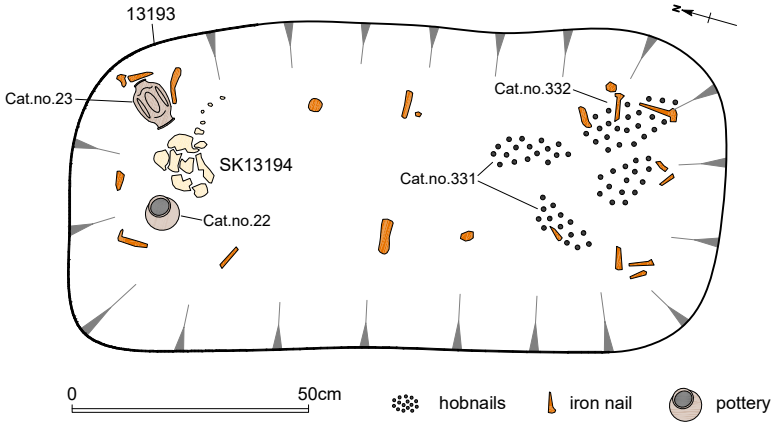


Figure 3.155: Bainesse Cemetery: plan of Grave 219.

The coffin in Grave **219** measured approximately 1.15m by 0.40m by at least 0.15m high and contained at least 13 nails, with a plank thickness of over 20mm. The hobnails indicated two pairs of footwear were present within the coffin. Those recovered from the southern end (Cat. no. 331) contained a minimum of 35 nails, while the remaining pair (Cat. no. 332) containing a minimum of 40. The southernmost pair were more likely to have been worn, although both pairs appeared to be lying flat. The beakers (Cat. nos 22 and 23) were placed within the coffin at either side of the head.

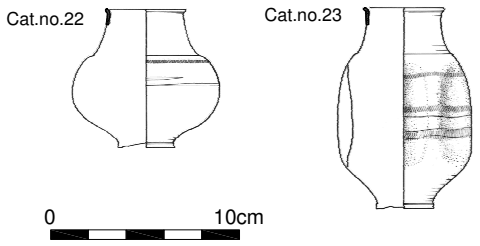


Figure 3.156: Bainesse Cemetery: placed ceramic vessels from Grave 219.

GRAVE 220

Table 3.206: grave catalogue for Grave 220.

Grave cut 13262	
Orientation	SSE-NNW
Max. dimensions	L: 2.05m, W: 0.90m, D: 0.34m
Associated contexts	Grave fill 13263
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat); *Triticum spelta* (spelt); *Hordeum* (hulled barley); undet. cerealia
Interpretative date	-

GRAVE 221

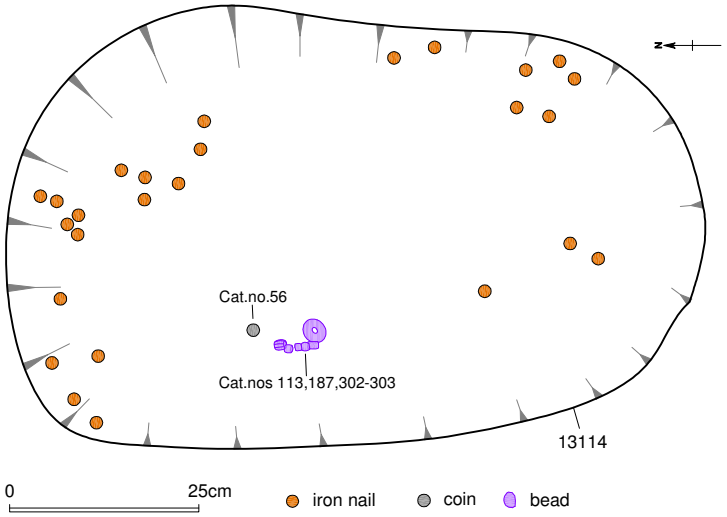


Figure 3.157: Bainesse Cemetery: plan of Grave 221.

The coffin in this grave measured approximately 0.73m by 0.36m by at least 0.13m high and contained a minimum of 24 nails, with c.20mm thick planks.

Table 3.207: grave catalogue for Grave 221.

Grave cut 13114	
Orientation	N-S
Max. dimensions	L: 0.93m, W: 0.60m, D 0.32m
Associated contexts	Grave fill 13113
Skeleton: none	
Grave contents	
Coffin	RF11641–57, RF11660, RF11676–82, RF13604 iron nails x24 (minimum)
Ceramic vessel	-
Grave goods	Cat. nos 113, 187, 302–303 beads x4; Cat. no. 56 pierced copper-alloy coin (?Antoninus Pius AD138–161)
Other finds	Pottery sherd x1 (Fabric O)
Environmental	Charcoal: undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat); *Asperula arvensis* (blue woodruff); Fabaceae undet.; Poaceae undet. >5 mm
Interpretative date	AD140–200

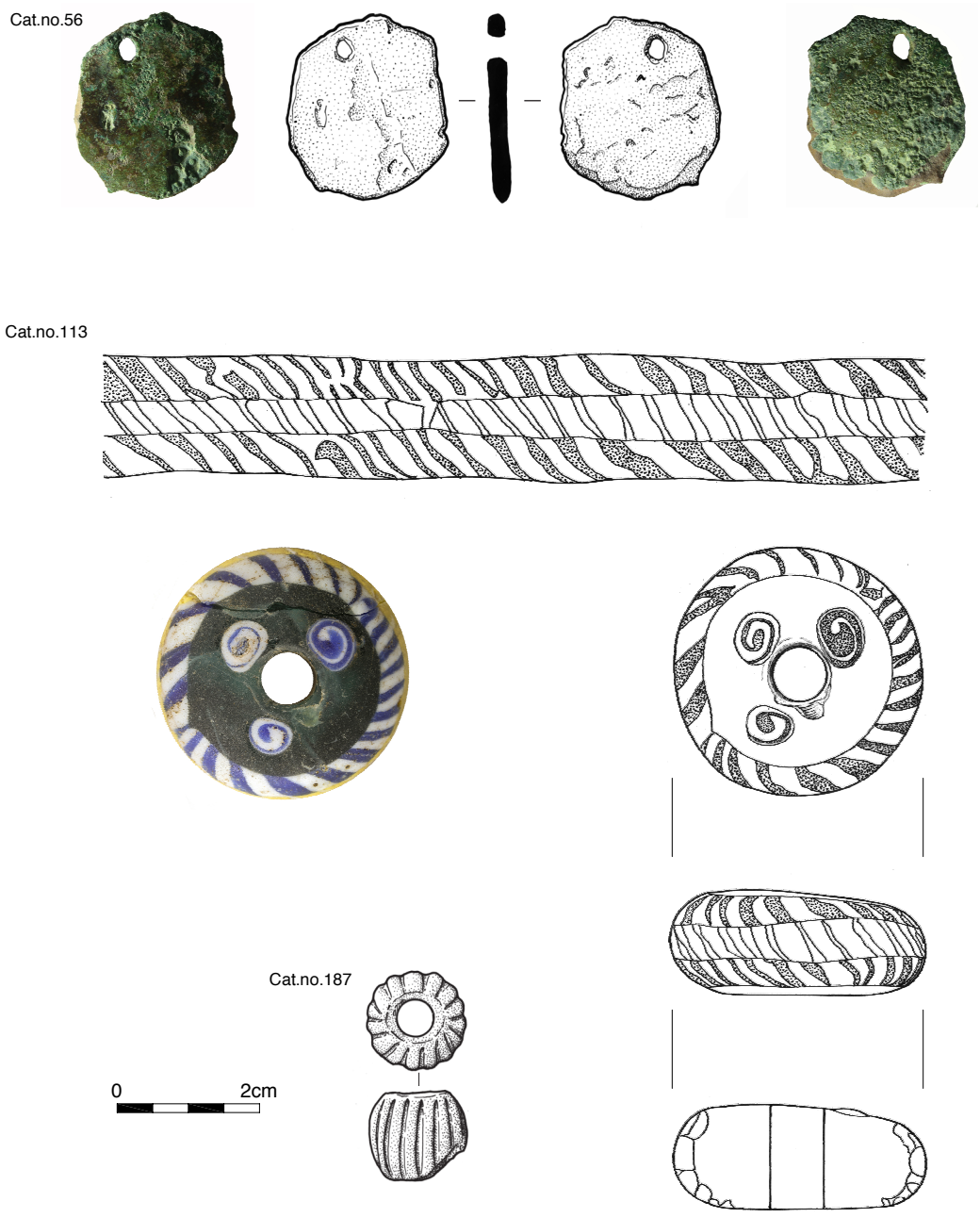


Figure 3.158: Bainesse Cemetery: beads and copper-alloy coin from Grave 221.

GRAVE 222

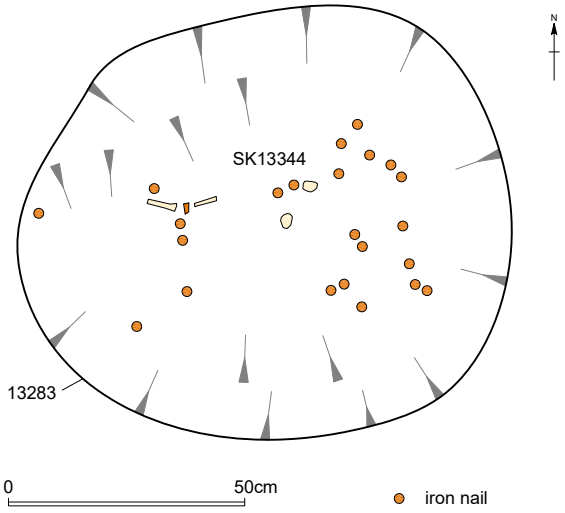


Figure 3.159: Bainesse Cemetery: plan of Grave 222.

The coffin in this grave measured approximately 0.75m by 0.40m by at least 0.22m high and contained a minimum of 20 nails. It was constructed using 25 and 30mm thick planks.

Table 3.208: grave catalogue for Grave 222.

Grave cut 13283	
Orientation	E-W
Max. dimensions	L: 1.04m, W: 0.84m, D: 0.62m
Associated contexts	Grave fill 13284; coffin fill 13287
Skeleton 13344	
Orientation	Head to W
Posture	-
Arm position	-
Sex	-
Age	1–12 months
Completeness	<5%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD132–260 (75.9%), cal AD279–326 (19.5%) (1796±29BP, SUERC-72997/GU43681)
	cal AD170–350
Grave contents	
Coffin	Context 13284: RF11891–5 iron nails x5 (minimum)
	Context 13287: RF11897–901, RF11905, RF11907, RF11910–16, RF11930–2, RF11935 iron nails x15 (minimum)
Ceramic vessel	-
Grave goods	-
Other finds	Context 13284: hammerscale
	Context 13287: hammerscale
Environmental	Context 13284: charred plant remains: undet. cerealia
Interpretative date	AD170–350

GRAVE 223

Table 3.209: grave catalogue for Grave 223.

Grave cut 13209	
Orientation	SE-NW
Max. dimensions	L: 2.90m, W: 1.32m, D: 0.60m
Associated contexts	Grave fill 13210
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD170–400

GRAVE 224

Table 3.210: grave catalogue for Grave 224.

Cut 13050	
Orientation	NE-SW
Max. dimensions	L: 1.12m, W: 0.56m, D: 0.28m
Associated contexts	Grave fill 13049
Skeleton: none	
Grave contents: none	
Interpretative date	AD170–400

GRAVE 225

Grave **225** was cut by cremation Grave **261**. As the interface between the fills was not clear, some of the cremated bone from the cremation deposit in Grave **261** was mistakenly attributed to Grave **225**.

Table 3.211: grave catalogue for Grave 225.

Cut 12340	
Orientation	N-S
Max. dimensions	L: 0.82m, W: 0.58m, D: 0.20m
Associated contexts	Grave fill 12341
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone (see below); undiagnostic ceramic building material fragments x13
Environmental	Charcoal: undet. hardwood
Interpretative date	AD170–400

GRAVE 226

The rough cobble lining (**13261**) in this grave was one of nine similar deposits recorded within the cemetery. In five graves, the deposits surrounded nailed coffins, while in the remaining four, including this grave, there was no material evidence of a coffin. The stone lining was suggestive that an un-nailed coffin may have been present in this case.

Table 3.212: grave catalogue for Grave 226.

Grave cut 13217	
Orientation	NE-SW
Max. dimensions	L: 1.70m, W: 1.02m, D: 0.32m
Associated contexts	Grave fill 13218; rough cobble lining 13261
Skeleton: none	
Grave contents: none	

GRAVE 229

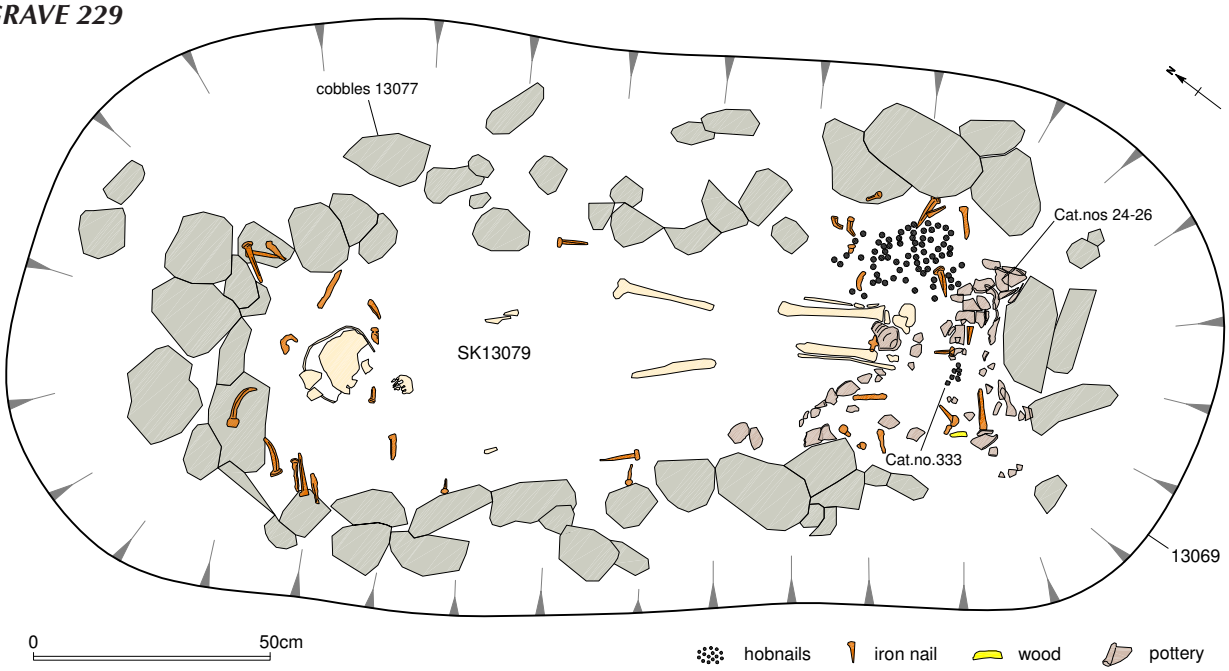


Figure 3.160: Bainesse Cemetery: plan of Grave 229.

This upper part of this grave was partially truncated by ring ditch **12500**. The coffin, which measured approximately 1.65m by 0.50m by at least 0.28m high, contained at least 33 nails and was constructed using 25mm thick planks. The three beakers (Cat. nos 24–26) were fragmented and lay at the south-southeastern end of the grave. Most of the sherds were located outside the coffin, suggesting that the vessels had been thrown into the grave onto or around the closed coffin, possibly in an already broken state. The few sherds within the coffin are interpreted as those that remained on the lid and subsequently fell through the decaying timber. Nailed shoes, consisting of a minimum of 95 hobnails, were found placed flat alongside the left foot. An additional group of seven hobnails (RF11714) that were recovered from soil sampling suggested the presence of a second pair of shoes that were worn by the individual at the time

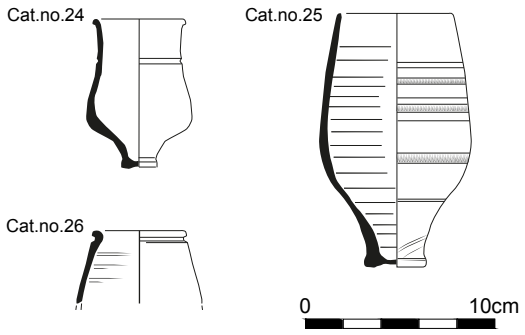


Figure 3.161: Bainesse Cemetery: smashed ceramic vessels from Grave 229.

of interment. The deposit of cobbles (**13077**) recorded abutting the outside of the coffin was possibly the result of the selection of larger stones from the upcast that were used to carefully backfill the grave so as not to damage the coffin. The disarticulated bone, which is suggested to relate to Skeleton 13060, was recovered from the secondary grave fill (**13068**) that lay over the cobbles and the coffin. This burial was not recorded as truncating any earlier burials; however, the disarticulated bone may have possibly originated from a shallower grave that had been totally removed by grave cut **13069**.

Table 3.213: grave catalogue for Grave 229.

Grave cut 13069	
Orientation	SE-NW
Max. dimensions	L: 2.65m, W: 1.30m, D: 1.15m
Associated contexts	Tertiary grave fill 13059/13067; secondary grave fill 13068 (containing SK13060); cobbles 13077; primary grave fill/coffin fill 13078
Skeleton 13079 (229b)	
Orientation	Head to NW
Posture	Supine; head facing right; legs extended, parallel
Arm position	-
Sex	-
Age	12–14
Completeness	35%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD64–219 (95.4%) (1883±29BP, SUERC-73000/GU43684)
	cal AD155–265 (86%), cal AD275–325 (9%)
Skeleton 13060 (229a)	
Orientation	N/A (disarticulated bones)
Posture	-
Arm position	-
Sex	-
Age	Foetus/neonate, 36-40 weeks
Completeness	20%
Preservation	Moderate
Dental pathology	-
Pathology	Woven bone on endocranial surface of parietals; focus of woven bone on ectocranial frontal bone
Stature (mm)	-
C14 date	cal AD88–104 (2.0%), cal AD121–258 (89.2%), cal AD296–322 (4.2%) (1821±32BP, SUERC-76682/GU45981)
	cal AD175–375
Grave contents	
Coffin	Context 13078: RF11379–93, RF11395, RF11399, RF11629–40, RF11697–702, RF11713, RF11722 (many with mineralised wood) iron nails x33
Ceramic vessels	Context 13078: Cat. no. 24 oxidised ware beaker (c.AD260–320); Cat. no. 25 Nene Valley ware beaker (AD260–300); cat. no. 26 Nene Valley ware beaker (AD200–250)
Grave goods	Cat. no. 333 nailed footwear represented by x95 (minimum) hobnails. An additional group of seven hobnails (RF11714) may represent a second pair of nailed footwear.
Other finds	Context 13059: pottery x1 (Fabric OAA4); pottery x1 (Fabric NV1); hammerscale
	Context 13079 (SK): other human bone (possibly part of Skeleton 13060)
Environmental	Context 13059: charcoal: *Fraxinus* (ash); *Betula* (birch); F*rangula alnus* (alder buckthorn); undet. hardwood
	Context 13059: charred plant remains: *Triticum aestivum* (bread wheat)
	Context 13078: charcoal: *Fraxinus* (ash); *Corylus* (hazel)
	Context 13078: charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD260–375

GRAVE 230

Table 3.214: grave catalogue for Grave 230.

Grave cut 13205	
Orientation	E-W
Max. dimensions	L: 0.87m, W: 0.58m, D: 0.65m
Associated contexts	Primary grave fill 13206; secondary grave fill 13207; tertiary grave fill 13208
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 13208: magnetic matter
Environmental	-
Interpretative date	-

GRAVE 231

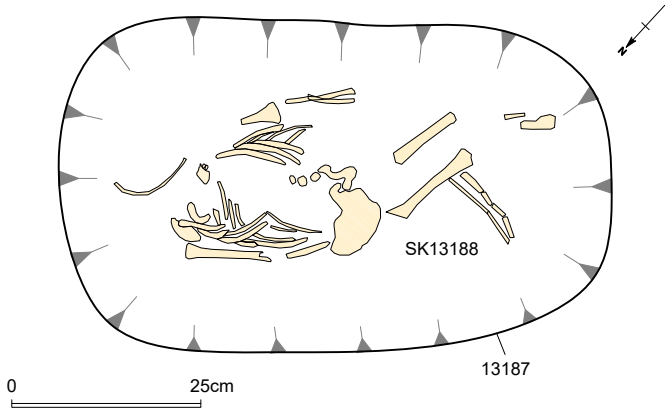


Figure 3.162: Bainesse Cemetery: plan of Grave 231.

Table 3.215: grave catalogue for Grave 231.

Grave cut 13187	
Orientation	NE-SW
Max. dimensions	L: 0.80m, W: 0.47m, D: 0.40m
Associated contexts	Grave fill 13189
Skeleton 13188	
Orientation	Head to NE
Posture	Supine; head facing left; legs semi-flexed left
Arm position	Extended alongside torso
Sex	-
Age	3–4
Completeness	50%
Preservation	Poor
Dental pathology	DEH on permanent dentition
Pathology	Possible rickets; woven bone on visceral surface of rib fragment
Stature (mm)	-
C14 date	cal AD129–258 (85.6%), cal AD284–322 (9.8%) (1807±29BP, SUERC-73009/GU43690)
	cal AD185–390
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Disarticulated human bone
Environmental	Charcoal: *Quercus* (oak)
	Charred plant remains: *Triticum* sp. (wheat); *Hordeum* (hulled barley)
Interpretative date	AD185–390

GRAVE 232

Table 3.216: grave catalogue for Grave 232.

Grave cut 13083	
Orientation	N-S
Max. dimensions	L: 0.95m, W: 0.68m, D: 0.52m
Associated contexts	Grave fill 13082
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; unidentified burnt bone
Environmental	-
Interpretative date	-

GRAVE 233

Table 3.217: grave catalogue for Grave 233.

Grave cut 13129	
Orientation	SSE-NNW
Max. dimensions	L: 1.96m, W: 1.30m, D: 0.63m
Associated contexts	Grave fill 13130
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–400

GRAVE 234

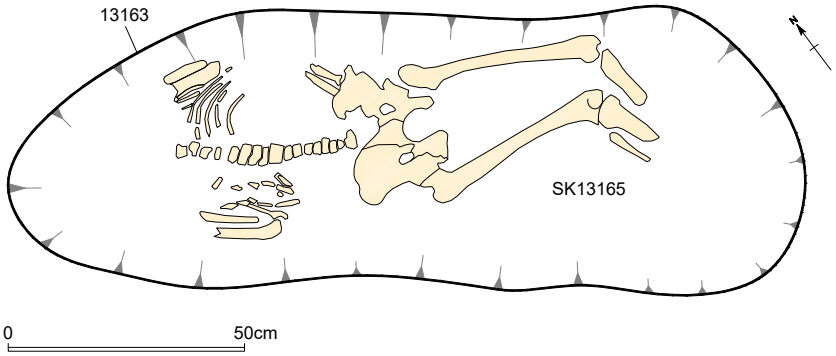


Figure 3.163: Bainesse Cemetery: plan of Grave 234.

Skeleton 13165 was one of only two examples of prone burials within the cemetery. The burial was uncovered following the excavation of all other identified graves, when the level of the site was further reduced by machine to check for the presence of further burials. It is probable that the missing elements at the head and feet were the result of machine disturbance during this process.

Table 3.218: grave catalogue for Grave 234.

Grave cut 13163	
Orientation	SE-NW
Max. dimensions	L: 1.68m, W: 0.61m, D: 0.42m
Associated contexts	Grave fill 13164
Skeleton 13165	
Orientation	Head to NW
Posture	Prone; legs semi-flexed right
Arm position	Right flexed at elbow, hand under pelvis, left extended alongside torso
Sex	Male
Age	46+
Completeness	60%
Preservation	Moderate
Dental pathology	-
Pathology	DJC in spine; DJC in left elbow, right hand, femora, tibiae, right calcaneus, left tarsals; OA in knee and hip; Schmorl's nodes
Stature (mm)	1628±32.7
C14 date	cal AD260–280 (3.1%), cal AD325–433 (86.2%), cal AD490–532 (6.0%) (1657±32BP, SUERC-67721/GU41071)
	cal AD335–460
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cremated human bone; pottery sherds x4 (Fabric BB1 AD200–4th century); pottery sherd x1 (Fabric GRA6)
Environmental	Charcoal: Fraxinus (ash); Tilia (lime); undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat); *Triticum spelta* (spelt); undet. cerealia; Poaceae undet. 2–5mm
Interpretative date	AD200–400

GRAVE 235

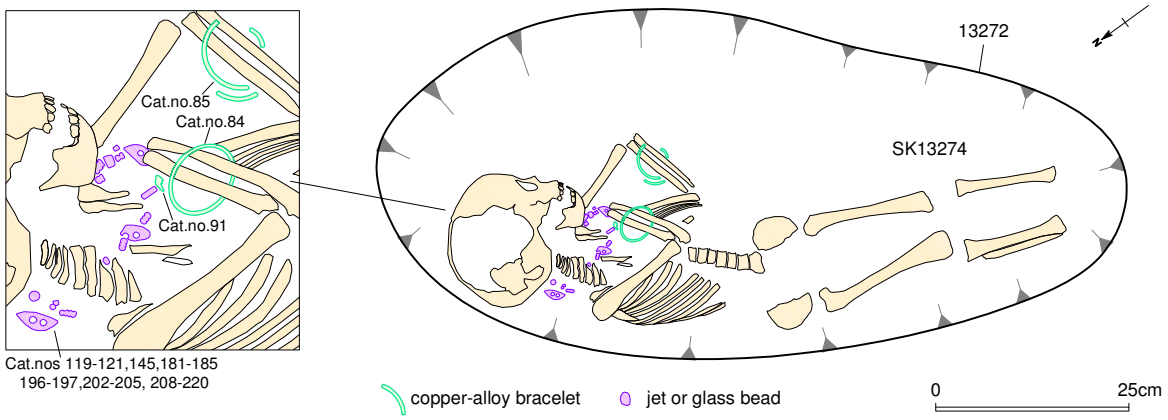


Figure 3.164: Bainesse Cemetery: plan of Grave 235.

The jet and glass bead necklace was the only recorded example in the cemetery of such an object being worn. The copper-alloy loop (Cat. no. 91) was located adjacent to some of the beads in the necklace and may have been part of this object.

Table 3.219: grave catalogue for Grave 235.

Grave cut 13272	
Orientation	NE-SW
Max. dimensions	L: 0.98m, W: 0.43m, D: 0.53m
Associated contexts	Grave fill 13273
Skeleton 13274	
Orientation	Head to NE
Posture	Supine; head facing left; legs extended, parallel
Arm position	Right arm flexed at shoulder and elbow, hand under mandible, left arm extended at shoulder and elbow, hand on torso
Sex	-
Age	3–5
Completeness	80%
Preservation	Moderate
Dental pathology	-
Pathology	Layer of woven bone in both orbits-possible scurvy; woven bone around right mandibular lingula; woven bone on inferior surface of pars basilaris; woven bone on left temporal; lamellar bone on ribs
Stature (mm)	-
C14 date	cal AD87–108 (3.1%), cal AD120–255 (89.9%), cal AD300–313 (2.4%) (1826±32BP, SUERC-67726/GU41076)
	cal AD170–380
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 84 copper-alloy bracelet on the right arm; Cat. no. 85 copper-alloy bracelet on on the left arm; Cat. no. 91 copper-alloy loop; Cat. nos 119–121, 145, 181–185, 196–197, 202–205, 208–220 jet and glass bead necklace
Other finds	Pottery sherds x4 (Fabric BB1) dating to c.AD270+; pottery sherd x1 (Fabric FLA20); magnetic matter; hammerscale
Environmental	Charcoal: *Tilia* (lime); undet. hardwood
	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD275–380

GRAVE 236

Table 3.220: grave catalogue for Grave 236.

Grave cut 13185	
Orientation	ESE-WNW
Max. dimensions	L: 2.05m, W: 0.71m, D: 0.47m
Associated contexts	Grave fill 13186
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	-

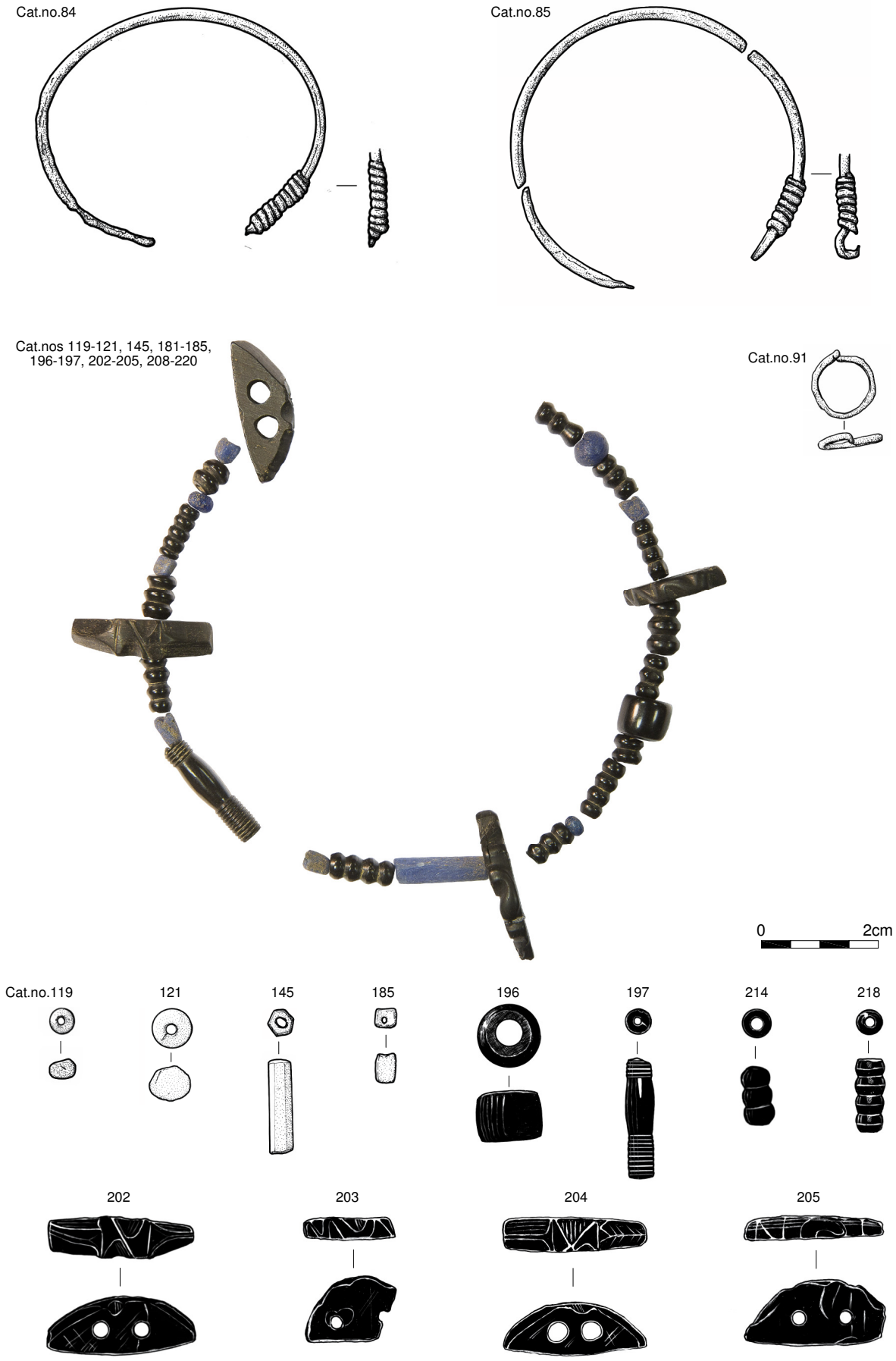


Figure 3.165: Bainesse Cemetery: jet and glass beads, copper-alloy bracelets and copper-alloy loop from Grave 235.

GRAVE 237

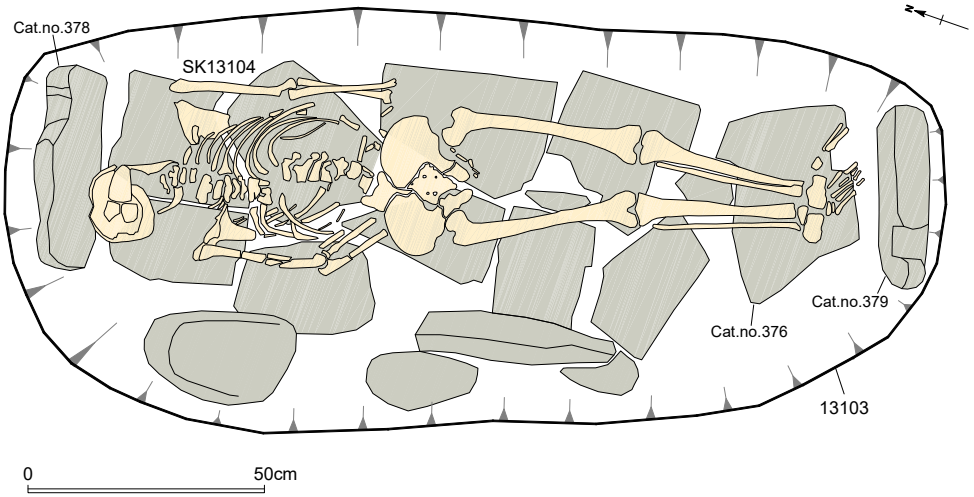


Figure 3.166: Bainesse Cemetery: plan of Grave 237.

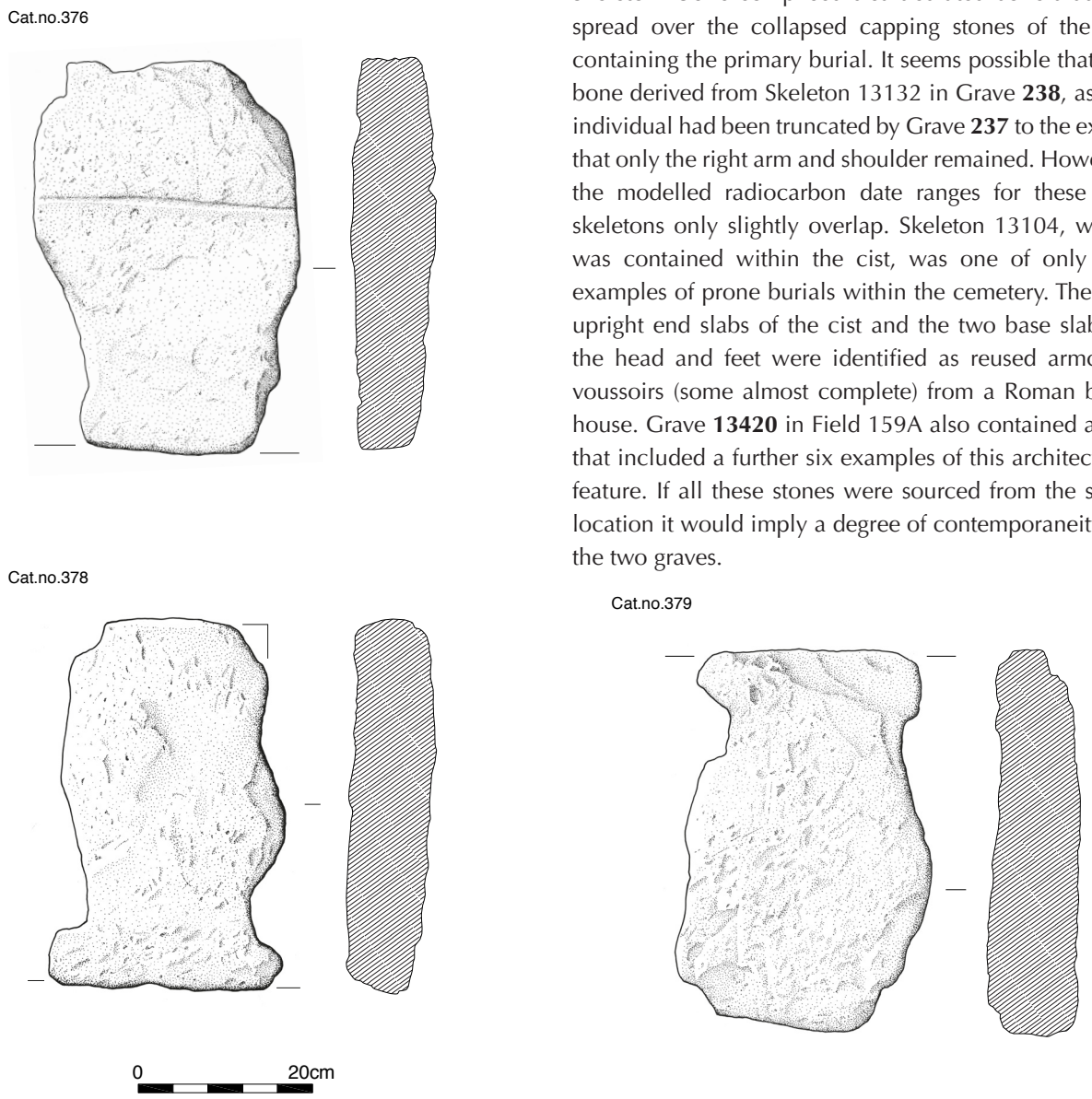


Figure 3.167: Bainesse Cemetery: armchair voussoirs from Grave 237.

Skeleton 13076 comprised disarticulated bone that was spread over the collapsed capping stones of the cist containing the primary burial. It seems possible that this bone derived from Skeleton 13132 in Grave **238**, as this individual had been truncated by Grave **237** to the extent that only the right arm and shoulder remained. However, the modelled radiocarbon date ranges for these two skeletons only slightly overlap. Skeleton 13104, which was contained within the cist, was one of only two examples of prone burials within the cemetery. The two upright end slabs of the cist and the two base slabs at the head and feet were identified as reused armchair voussoirs (some almost complete) from a Roman bath-house. Grave **13420** in Field 159A also contained a cist that included a further six examples of this architectural feature. If all these stones were sourced from the same location it would imply a degree of contemporaneity for the two graves.

Table 3.221: grave catalogue for Grave 237.

Grave cut 13103	
Orientation	SSE-NNW
Max. dimensions	L: 2.30m, W: 1.00m, D: 0.44m
Associated contexts	Grave fill 13117
Skeleton 13104 (237b)	
Orientation	Head to NNW
Posture	Prone; head face down; legs extended, feet together
Arm position	Right extended alongside torso, left slightly flexed, hand under pelvis
Sex	Female
Age	26–35
Completeness	95%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	Cribra orbitalia; sinusitis; OA in first left rib head, left rib facet on T1; OA on right proximal femur; DJC in right clavicle, distal humeri, proximal ulnae, femora; lamellar bone on right tibia and right fibula
Stature (mm)	1556±37.2
C14 date	cal AD263–276 (1.5%), cal AD329–435 (81.7%), cal AD455–470 (1.6%), cal AD487–534 (10.5%) (1649±32BP, SUERC-67713/GU41066)
	cal AD350–435
Skeleton 13076 (237a)	
Orientation	N/A (disarticulated bones)
Posture	-
Arm position	-
Sex	Probable female
Age	36+
Completeness	35%
Preservation	Poor
Dental pathology	Calculus, DEH
Pathology	DJC in right proximal tibia, left distal tibia, right tarsals
Stature (mm)	-
C14 date	cal AD412–557 (95.4%) (1573±32BP, SUERC-67711/GU41064)
	cal AD405–470
Grave contents	
Stone cist	Cat. nos 376–379 capping stone (RF13084); sides and base stones (RF13085, including worked stones RF11685–6 and RF11694–5)
Ceramic vessel	-
Grave goods	-
Other finds	Context 13117: disarticulated human bone; cremated human bone; magnetic matter; hammerscale
	Context 13076 (SK): other disarticulated human bone
	Context 13104 (SK): other disarticulated human bone
Environmental	Context 13117: charcoal: undet. hardwood
Interpretative date	AD405–470

GRAVE 238

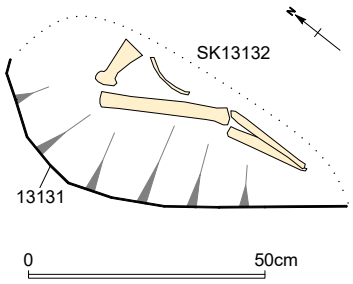


Figure 3.168: Bainesse Cemetery: plan of Grave 238.

Grave **238** had been almost completely truncated by Grave **237**. As a result, only the right arm and shoulder of Skeleton 13132 survived within the grave cut.

Table 3.222: grave catalogue for Grave 238.

Grave cut 13131	
Orientation	SSE-NNW
Max. dimensions	L: >0.69m, W: >0.35m, D: 0.33m
Associated contexts	Grave fill 13133
Skeleton 13132	
Orientation	Head to NNW
Posture	Supine
Arm position	Right slightly extended away from torso
Sex	-
Age	18+
Completeness	10%
Preservation	Very poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD255–302 (22.1%), cal AD315–406 (73.3%) (1699±29BP, SUERC-72966/GU43637)
	cal AD255–300 (11%), cal AD320–420 (84%)
Grave contents: none	
Interpretative date	AD255–420

GRAVE 239

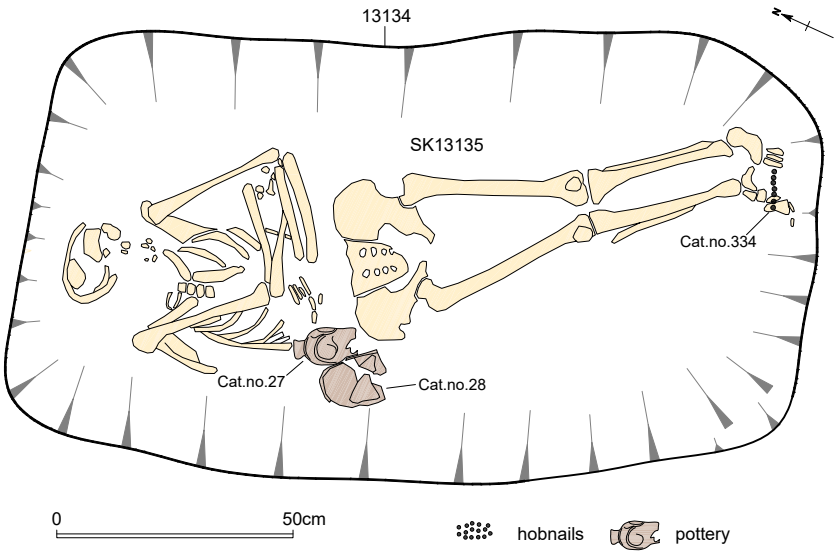


Figure 3.169: Bainesse Cemetery: plan of Grave 239.

The two placed beakers (Cat. nos 27 and 28) in Grave **239** were located to the right of the abdomen rather than the more usual position alongside the head. One of the beakers appeared to have been broken in situ and was probably undamaged when deposited. The individual was wearing nailed footwear containing a minimum of 39 hobnails and two shoe plates. Many of the hobnails were retrieved from a soil sample taken from around the feet and are thus not illustrated on the plan.

Table 3.223: grave catalogue for Grave 239.

Grave cut 13134	
Orientation	SSE-NNW
Max. dimensions	L: 1.65m, W: 1.16m, D: 0.60m
Associated contexts	Grave fill 13136
Skeleton 13135	
Orientation	Head to NNW
Posture	Supine; head tilted left; legs extended, parallel
Arm position	Upper left angled away from torso, flexed 90° at elbow, hand on abdomen; upper right angled over thorax, flexed 90° at elbow, hand in crook of left arm
Sex	Female
Age	36–45
Completeness	95%
Preservation	Moderate
Dental pathology	AMTL, calculus, caries, abscess
Pathology	Hypervascularity on superior occipital bone; OA on left first rib head, healed fracture mid-11th rib; DJC in spine, clavicles, humeri, radii, ulnae, hands, femora
Stature (mm)	1552±39.5
C14 date	cal AD244–391 (95.4%) (1724±32BP, SUERC-67715/GU41068)
	cal AD250–410
Grave contents	
Coffin	-
Ceramic vessel	Cat. no. 27 Nene Valley ware beaker (?mid-3rd century AD); Cat. no. 28 Nene Valley ware beaker (c.AD220–260)
Grave goods	Cat. no. 334 nailed footwear represented by x39 (minimum) hobnails, plus x2 shoe plates
Other finds	Context 13136: pottery sherds x2 (Fabric GRB2); pottery sherd x1 (Fabric GRB8)
	Context 13135 (SK): other disarticulated human bone
Environmental	Charcoal: Maloideae (pomaceous wood)
	Charred plant remains: *Triticum* sp. (wheat)
Interpretative date	AD250–410

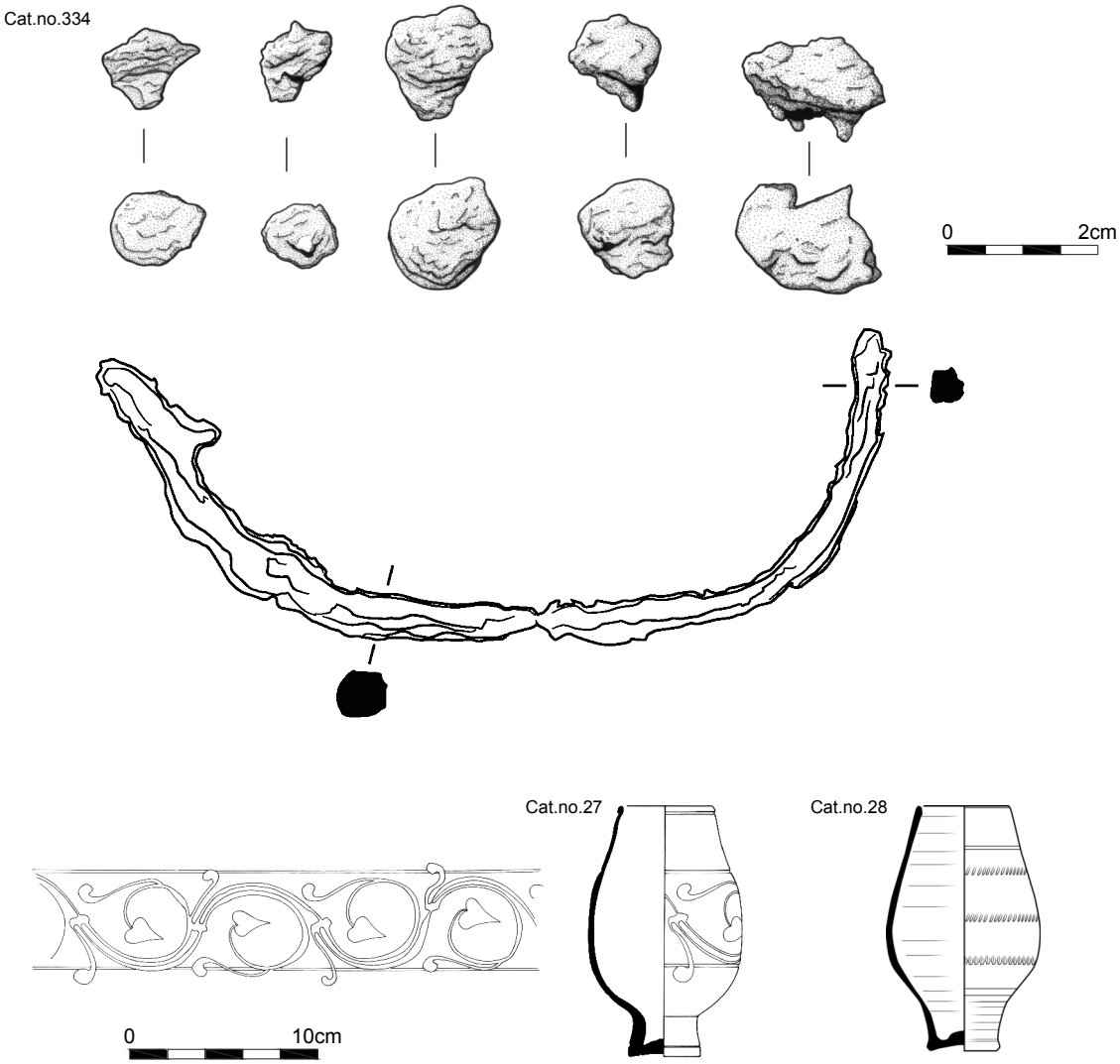


Figure 3.170: Bainesse Cemetery: placed ceramic vessels and hobnails with shoe plate from Grave 239.

GRAVE 240

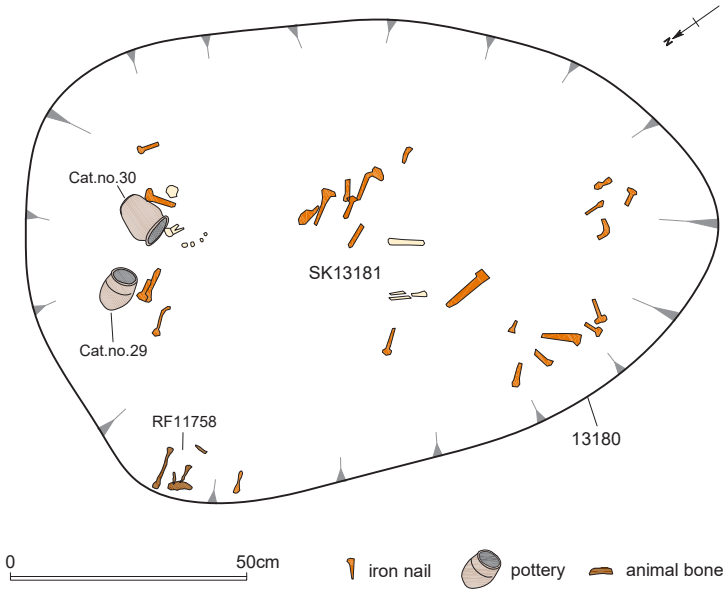


Figure 3.171: Bainesse Cemetery: plan of Grave 240.

The coffin in this grave measured approximately 1.05m by 0.45m by at least 0.24m high and contained a minimum of 27 nails. It is unclear whether the two placed beakers (Cat. nos 29 and 30) were located within the coffin. They appeared to lie just outside the line of nails defining the head end. However, one of the nails overlay Cat. no. 30 and was in close proximity to the teeth of Skeleton 13181, suggesting that the end of the coffin had collapsed inwards over the contents. Although disturbed by the collapsing coffin, it seems likely that the vessels were originally placed on either side of the head. The chicken bones (RF11758) lay outside the coffin in the north-western corner of the grave.

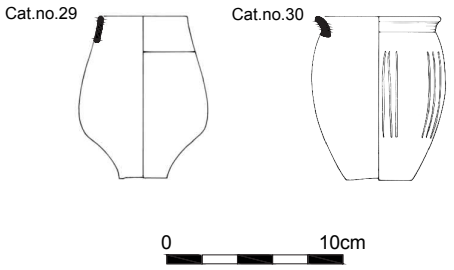


Figure 3.172: Bainesse Cemetery: placed ceramic vessels from Grave 240.

Table 3.224: grave catalogue for Grave 240.

Grave cut 13180	
Orientation	NE-SW
Max. dimensions	L: 1.45m, W: 1.00m, D: 0.58m
Associated contexts	Grave fill 13182
Skeleton 13181	
Orientation	Head to NE
Posture	Supine?; legs extended, parallel
Arm position	-
Sex	-
Age	4–5
Completeness	5%
Preservation	Very poor
Dental pathology	DEH on permanent dentition
Pathology	-
Stature (mm)	-
C14 date	cal AD85–234 (95.4%) (1851±28BP, SUERC-72970/GU43648)
	cal AD160–330
Grave contents	
Coffin	RF11746–50, RF11752–7, RF11759–60, RF11769–80, RF11783–4, RF11789–90, RF11793–98 iron nails x27 (minimum)
Ceramic vessel	Cat. no. 29 Nene Valley ware beaker (c.AD220–260); Cat. no. 30 reduced coarseware jar/ beaker (AD150–240/80)
Grave goods	RF11758 chicken bones
Other finds	Pottery sherd x1 (Fabric FLB1); magnetic matter; hammerscale
Environmental	Charcoal: Maloideae (pomaceous wood); undet. hardwood
	Charred plant remains: *Triticum spelta* (spelt); Poaceae undet. 2–5mm; undet. cerealia
Interpretative date	AD220–330

GRAVE 241

Table 3.225: grave catalogue for Grave 241.

Grave cut 13115	
Orientation	E-W
Max. dimensions	L: 1.50m, W: 0.90m, D: 0.35m
Associated contexts	Grave fill 13116
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter
Environmental	Charred plant remains: *Triticum* sp. (wheat); undet. cerealia
Interpretative date	-

GRAVE 242

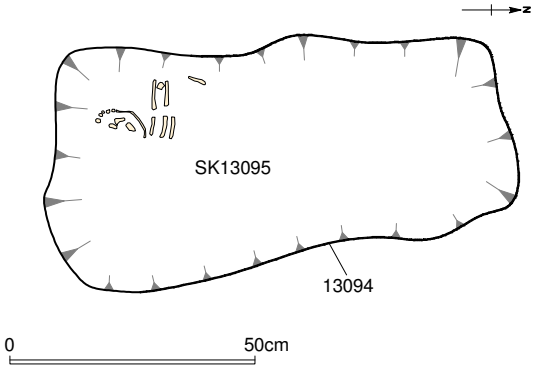


Figure 3.173: Bainesse Cemetery: plan of Grave 242.

Skeleton 13095 comprised an assemblage of disarticulated bone that was found clustered in the south-western corner of the grave.

Table 3.226: grave catalogue for Grave 242.

Grave cut 13094	
Orientation	N-S
Max. dimensions	L: 0.95m, W: 0.48m, D: 0.37m
Associated contexts	Grave fill 13105
Skeleton 13095	
Orientation	N/A (disarticulated bones)
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	5%
Preservation	Good
Dental pathology	AMTL, calculus, DEH, abscess, periodontal disease
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents: none	
Interpretative date	AD200–300

GRAVE 243

Table 3.227: grave catalogue for Grave 243.

Grave cut 13096	
Orientation	E-W
Max. dimensions	L: 1.20m, W: 0.76m, D: 0.47m
Associated contexts	Primary grave fill 13106; secondary grave fill 13107
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 13107: magnetic matter; hammerscale
Environmental	Context 13106: charred plant remains: *Triticum aestivum* (bread wheat); undet. cerealia
Interpretative date	-

GRAVE 244

This burial was cut into the backfilled ditches that represented the south-eastern boundary of the enclosure. It was located 8.30m from the nearest grave to the east and was the only example of a burial failing to respect the enclosure. The very shallow grave had been severely truncated by ploughing and the exposed skeletal remains were slightly disturbed during machining. Despite this, the surviving mandibular and cranial elements were located beyond the feet at the southern end of the grave, suggesting that the individual had been decapitated. This was one of only two decapitations recorded within the cemetery. The severe truncation had also removed any evidence for further elements of the cist, although there were no stone impressions from uprights and the base lacked the straight outer edges that would suggest they abutted side and end slabs.

Table 3.228: grave catalogue for Grave 244.

Grave cut 12316	
Orientation	SSE-NNW
Max. dimensions	L: 2.18m, W: 0.80m, D: 0.17m
Associated contexts	Grave fill 12314; stone slab base 12315
Skeleton 12310	
Orientation	Feet to SSE
Posture	Supine; head next to feet?; lower legs extended, parallel, femora not present
Arm position	-
Sex	Probable male
Age	26–35
Completeness	25%
Preservation	Moderate
Dental pathology	Calculus, periodontal disease
Pathology	Lamellar bone on articular eminence of right temporal bone, rough and pitted bone at interosseous membrane attachment site of distal right fibula – mirrored in right distal tibia; DJC in distal right tibia, distal fibulae, right tarsals
Stature (mm)	-
C14 date	cal AD257–298 (12.2%), cal AD320–423 (83.2%) (1680±32BP, SUERC-67691/GU41049)
	cal AD325–455
Grave contents	
Cist	Context 12315: stone slab base
Ceramic vessel	-
Grave goods	Context 12314: cat. no. 397 hobnail x1 possibly representing disturbed hobnailed footwear
Other finds	Context 12314: pottery sherd x1 (Fabric OAB); glass vessel fragments x2; bone; clinker; coal; magnetic matter; hammerscale
Environmental	Context 12314: charred plant remains: *Triticum spelta* (spelt)
Interpretative date	AD325–455

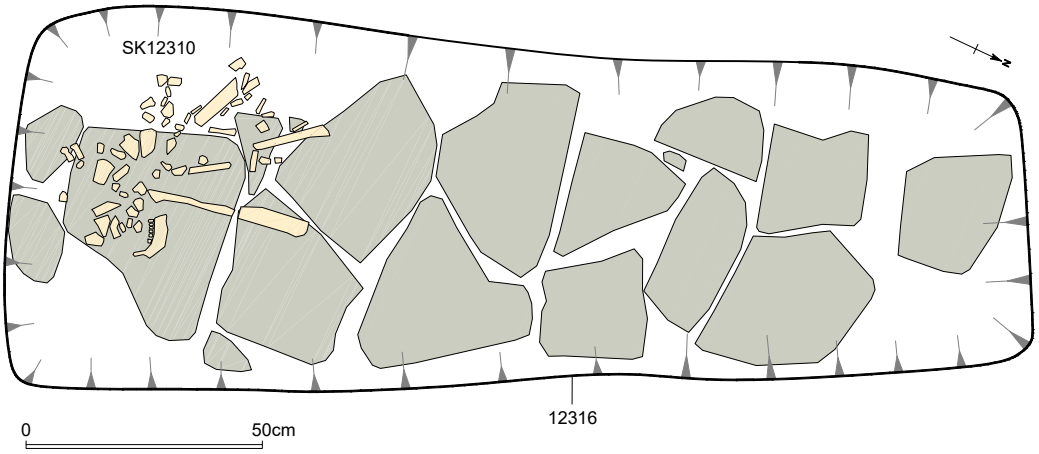


Figure 3.174: Bainesse Cemetery: plan of Grave 244.

GRAVE 254

This burial was bisected by a post-medieval field boundary ditch. As originally recorded, Skeleton 12803 consisted of only a cranium. Consequently, teeth recovered from a sample of grave fill **12804**, which was originally recorded as Grave **171**, were matched with the cranium and these two burials were amalgamated. As the cranium was located 0.30m from the end of the coffin and the loose teeth from the sample were dispersed, it seems possible that these elements represented disturbed redeposited remains rather than the primary burial. The incomplete coffin measured approximately 1.55m by 0.50m by at least 0.20m high and contained a minimum of 23 nails. It was constructed using 30mm thick planks.

Table 3.229: grave catalogue for Grave 254.

Grave cut 12760/12802	
Orientation	SSE-NNW
Max. dimensions	L: 1.72m, W: 0.86m, D: 0.55m
Associated contexts	Grave fill 12761/12804/12814
Skeleton 12803	
Orientation	Head to SSE
Posture	Head lying on left side
Arm position	-
Sex	-
Age	18–25
Completeness	5%
Preservation	Moderate
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD140–384 (95.4%) (1815±25BP, SUERC-75898/GU45470)
	cal AD175–380
Grave contents	
Coffin	Context 12761: RF10511–25 iron nails x12
	Context 12804: RF11149, RF11169–78 iron nails x11
Ceramic vessel	-
Grave goods	-
Other finds	Context 12804: hammerscale
	Context 12814: intrusive post-medieval pottery
Environmental	Context 12804: charcoal: *Cornus* (dogwood)
Interpretative date	AD175–380

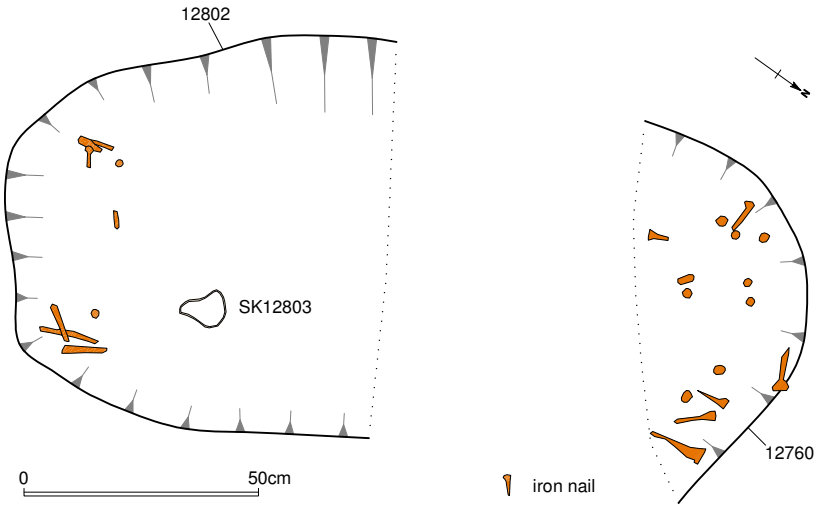


Figure 3.175: Bainesse Cemetery: plan of Grave 254.

GRAVE 255

This grave number was allocated to the fragmentary remains of Skeleton 12609 (comprising dentition and a small fragment of skull), which were recorded during the excavation of Graves **155** and **156**. The remains included in situ maxillary and mandibular teeth, suggesting a degree of articulation, but no corresponding separate grave cut could be defined. It is possible that Skeleton 12609 represented a still articulated skull in the backfill of Grave **155**.

Table 3.230: grave catalogue for Grave 255.

Grave cut 12608	
Orientation	Unknown
Max. dimensions	Unknown (no edges discernible)
Associated contexts	Grave fill 12610
Skeleton 12609	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	18+
Completeness	<5%
Preservation	Very poor (dentition and a small fragment of skull)
Dental pathology	Calculus, peg tooth present
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Magnetic matter; hammerscale
Environmental	-
Interpretative date	AD170–400

GRAVE 256

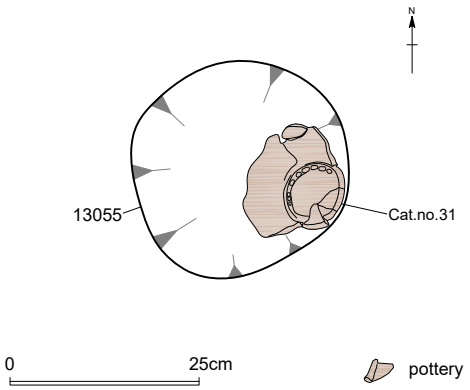


Figure 3.176: Bainesse Cemetery: plan of Grave 256.

Grave cut **13055** was a heavily truncated and almost imperceptible sub-circular scoop containing the base and partial lower body of a truncated jar (Cat. no. 31). It was similar in appearance to the truncated urned cremation burials in Graves **261**, **271** and **273**, but contained no cremated bone or charcoal. The feature was so shallow that it possibly represented the base of a larger truncated grave.

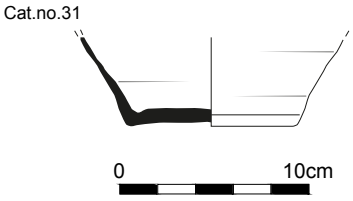


Figure 3.177: Bainesse Cemetery: placed ceramic vessel from Grave 256.

Table 3.231: grave catalogue for Grave 256.

Grave cut 13055	
Orientation	N/A
Max. dimensions	L: 0.29m W: 0.26m D: 0.08m
Associated contexts	Fill 13056
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	Cat. no. 31 reduced coarseware jar (AD200–350)
Grave goods	-
Other finds	Pottery sherd x1 (Fabric BB1) dated 3rd–mid-4th century AD
Environmental	-
Interpretative date	AD200–350

GRAVE 257

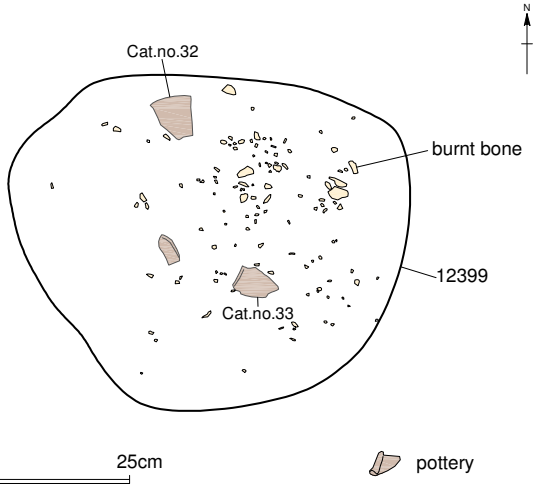


Figure 3.178: Bainesse Cemetery: plan of Grave 257.

Grave **257**, along with the nearby Grave **258**, was located 13m to the north-west of the main concentration of cremation burials. The 27 hobnails that comprised Cat. no. 403 were found in the sample of fill **12400**. This fill also contained nine burnt and partially oxidised sherds from a reduced coarseware beaker (Cat. no. 32), and three burnt and mostly oxidised sherds from a black-burnished ware jar/beaker (Cat. no. 33).

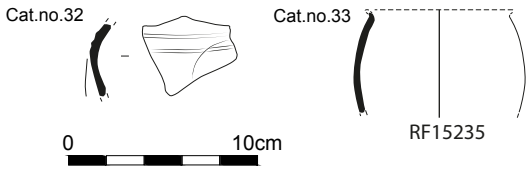


Figure 3.179: Bainesse Cemetery: incomplete ceramic vessels from Grave 257.

Table 3.232: grave catalogue for Grave 257.

Grave cut 12399	
Shape	Sub-circular
Max. dimensions	Dia: 0.46m, D: 0.10m
Associated contexts	Fill 12400
Cremation deposit	
Weight (g)	373.7
Largest fragment (mm)	20.5
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White, grey
Age	Adult
Sex	-
C14 date	1. 21–11 cal BC (1.2%), 2 cal BC–cal AD133 (94.2%) (1935±32BP, SUERC-73400/GU43698)
	2. 35–31 cal BC (0.7%), 22–11 cal BC (2%), 2 cal BC–cal AD130 (92.7%) (1940±34BP, SUERC-75035/GU44904)
	Combined: c*al AD17–126 (95.4%); cal AD150–420*
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 403 hobnails x27; cremated sheep/goat bone; Cat. no. 32 pottery sherds x9 from a beaker (Fabric GRB27) dated possibly early 3rd century AD; Cat. no. 33 jar/beaker sherds (Fabric BB1) dated 2nd–3rd century AD
Other finds	Slag; magnetic matter; hammerscale
Environmental	Charcoal: *Corylus* (hazel); Maloideae (pomaceous wood); undet. hardwood
	Charred plant remains: *Corylus avellana* (hazelnut); *Vicia faba* (broad bean)
Interpretative date	AD150–320

GRAVE 258

Table 3.233: grave catalogue for Grave 258.

Deposit 12414 (no discernible cut)	
Shape	Sub-oval
Max. dimensions	L: 0.30m, W: 0.22m, D: 0.08m
Associated contexts	-
Cremation deposit	
Weight (g)	41.5
Largest fragment (mm)	13.5
Identified elements	Skull, upper limb, long bones
Colour	White, blue/grey
Age	-
Sex	-
C14 date	cal AD90–100 (1.1%), cal AD124–260 (85.3%), cal AD280–325 (9.0%) (1815±34 BP, SUERC-75034/GU44903)
	cal AD175–440
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods?	Small, possibly burnt, pottery sherds x2 (Fabric OAC2)
Other finds	Cat. no. 404 hobnail x1; magnetic matter; hammerscale
Environmental	Charcoal: *Betula* (birch); *Corylus* (hazel): *Cornus/Viburnum* (dogwood/guelder-rose)
Interpretative date	AD175–400

GRAVE 259

Figure 3.180: Bainesse Cemetery: plan of Graves 259 and 260.

Grave **259** was cut into inhumation Grave **202** and was in turn cut by cremation Grave **260**. The four hobnails present indicated that footwear was possibly included in the burial. If all or some of the 23 hobnails recorded from Grave **260** had been redeposited from Grave **259**, this would add weight to this interpretation.

Table 3.234: grave catalogue for Grave 259.

Grave cut 12684	
Shape	Sub-rectangular
Max. dimensions	L: 0.56m, W: 0.52m, D: 0.28m
Associated contexts	Cremation deposit 12685; backfill 12686
Cremation deposit	
Weight (g)	38.2
Largest fragment (mm)	28.7
Identified elements	Skull, axial, upper limb, long bones
Colour	Light grey, blue, black
Age	-
Sex	-
C14 date	cal AD135–333 (95.4%) (1785±32BP, SUERC-73399/GU43697)
	cal AD200–400
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 405 hobnails x4
Other finds	Context 12685: magnetic matter; slag; hammerscale
Environmental	Context 12685: charcoal: undet. hardwood
	Context 12686: charred plant remains: *Triticum* sp. (wheat); Fabaceae undet.
Interpretative date	AD200–400

GRAVE 260

Table 3.235: grave catalogue for Grave 260.

Grave cut 12347	
Shape	Sub-rectangular
Max. dimensions	L: 0.38m, W: 0.32m, D: 0.17m
Associated contexts	Backfill 12348; Cinerary urn 12349; urned cremation deposit 12350
Cremation deposit	
Weight (g)	1274.3
Largest fragment (mm)	70.7
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White
Age	Adult
Sex	-
C14 date	cal AD135–335 (95.4%) (1781±32BP, SUERC-73398/GU43696)
	cal AD265–460
Grave contents	
Cinerary urn	Context 12349 (with further sherds from contexts 12348 and 12350): Cat. no. 34 handmade jar (?2nd–mid-3rd century AD)
Grave goods	Cat. no. 406 possible nailed footwear represented by x23 (minimum) hobnails
Pyre goods	-
Other finds	Context 12348: pottery; magnetic matter; hammerscale
Environmental	Context 12348: charcoal: *Calluna vulgaris* (heather); undet. hardwood
	Context 12350: wheat grain x1; grass grain x1
Interpretative date	AD265–400

Grave **260** was cut into cremation Grave **259**, and both graves were positioned over inhumation Grave **202**. The hobnails comprising Cat. no. 406 indicated that footwear was possibly included in the burial. However, the hobnails were retrieved from backfill **12348** and, as Grave **260** cut Grave **259**, which contained four hobnails within the cremation deposit, it is possible that some or all derived from the latter of these two graves.

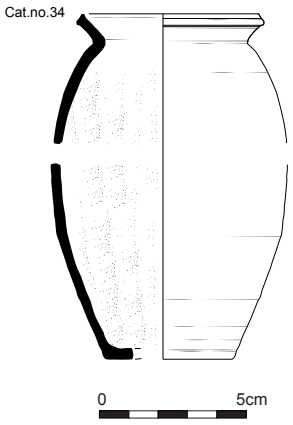


Figure 3.181 (right): Bainesse Cemetery: cinerary urn from Grave 260.

GRAVE 261

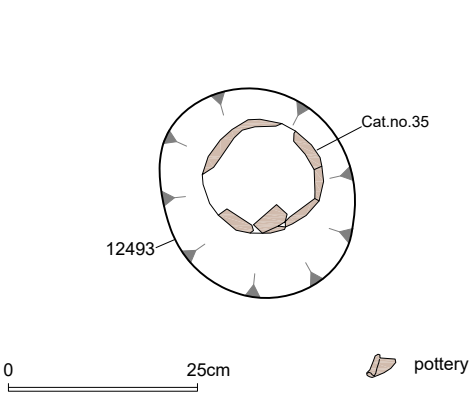


Figure 3.182: Bainesse Cemetery: plan of Grave 261.

Table 3.236: grave catalogue for Grave 261.

Grave cut 12493	
Shape	Sub-circular
Max. dimensions	Dia: 0.26m, D: 0.06m
Associated contexts	Cinerary urn 12355; urned cremation deposit 12356; backfill 12361
Cremation deposit	
Weight (g)	256.3
Largest fragment (mm)	34.4
Identified elements	Long bones
Colour	White, grey
Age	-
Sex	-
C14 date	cal AD87–108 (2.7%), cal AD120–257 (89.4%), cal AD298–320 (3.2%) (1824±32BP, SUERC-73394/GU43695)
	cal AD230–450
Grave contents	
Cinerary urn	Context 12355 (with further sherds from 12361): Cat. no. 35 oxidised ware jar (2nd century AD or later)
Grave goods	Context 12356: Cat. no. 36 partial fragmented black-burnished ware jar (late 2nd–4th century AD)
Pyre goods	-
Other finds	Context 12361: magnetic matter; hammerscale
Environmental	Context 12361: charcoal: *Prunus* (stone fruit)
Interpretative date	AD230–400

This cremation (Grave **261**) was cut into inhumation Grave **225**. It had been heavily truncated by ploughing, with only the base and some of the lower body of the urn (Cat. no. 35) surviving. The cremation deposit, which had been partially spread outside the urn, contained eight sherds from a black-burnished ware jar (Cat. no. 36).

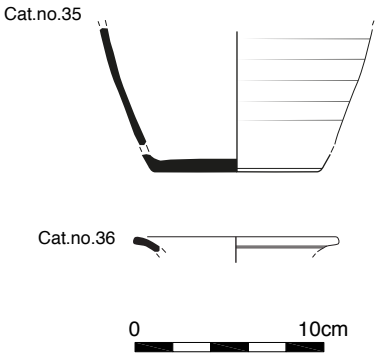


Figure 3.183 (right): Bainesse Cemetery: cinerary urn and incomplete ceramic vessel from Grave 261.

GRAVE 262

Figure 3.184: Bainesse Cemetery: grape pip from Grave 262.

Table 3.237: grave catalogue for Grave 262.

Grave cut 12321	
Shape	Sub-rectangular
Max. dimensions	L: 0.79m; W: 0.70m; D: 0.18m
Associated contexts	Fill 12322
Cremation deposit	
Weight (g)	9
Largest fragment (mm)	22.4
Identified elements	Long bones
Colour	White
Age	-
Sex	-
C14 date	cal AD83–251 (95.4%) (1834±33 BP, SUERC-75043/GU44909)
	cal AD340–470
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	-
Other finds	Pottery sherd x1 (Fabric FLA2); pottery sherd x1 (Fabric GRB1)
Environmental	Charcoal: *Fraxinus* (ash)
	Charred plant remains: *Triticum spelta* (spelt); *Vitis vinifera* (grape)
Interpretative date	AD340–400

GRAVE 263

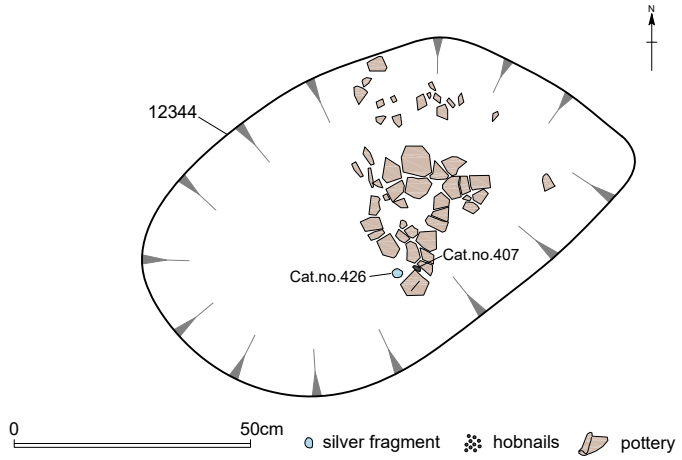


Figure 3.185: Bainesse Cemetery: plan of Grave 263.

This cremation burial was cut into the top of ring gully **12500**. The pottery from the cremation deposit (**12357**) comprised 75 sherds of a black-burnished ware jar dating to c.AD240–270, which formed a fragmented spread, and hence did not appear to have broken in situ. The vessel was burnt internally and externally and appeared to represent pyre goods. Several more burnt sherds, possibly from the same jar, were present in deposits **12343** and **12358**. There were also 33 small unburnt sherds from a different black-burnished ware jar dated to the mid- to late 3rd century AD from backfill **12343**.

Table 3.238: grave catalogue for Grave 263.

Grave cut 12344	
Shape	Sub-oval
Max. dimensions	L: 1.05m, W: 0.63m, D: 0.23m
Associated contexts	Backfill 12343; cremation deposit 12357; primary fill 12358
Cremation deposit	
Weight (g)	14.3
Largest fragment (mm)	11.2
Identified elements	Skull, axial, long bones
Colour	White
Age	Non-adult
Sex	-
C14 date	cal AD81–247 (95.4%) (1840±34BP, SUERC-75039/GU44905)
	cal AD345–470
Grave contents	
Cinerary urn	-
Grave goods	Context 12343: incomplete (sherds x33) unburnt fragmented BB1 jar (mid- to late 3rd century AD)
Pyre goods	Context 12343 and 12357: Cat. no. 407 hobnails x3 possibly representing hobnailed footwear
	Context 12357: incomplete fragmented (sherds x75) burnt jar (c.AD240–270); Cat. no. 426 possible silver fragment
	Context 12358: burnt pottery sherd x1 (Fabric OBB)
Other finds	Context 12343: pottery sherds x2 (Fabric GRA5); pottery sherd x1 (Fabric GRA6); pottery sherd x1 (Fabric 1 NV1)
	Context 12358: pottery sherds x5 (Fabric BB1); pottery sherds x6 (Fabric GRB); pottery sherd x1 (Fabric GRB11)
	Context 12343 and 12357: RF597–9 iron nails x2 and x3 iron nail shanks
Environmental	Context 12343: charcoal: *Quercus* (oak); *Rosa* (rose)
	Context 12358: charcoal: Maloideae (pomaceous wood)
Interpretative date	AD345–400

GRAVE 264

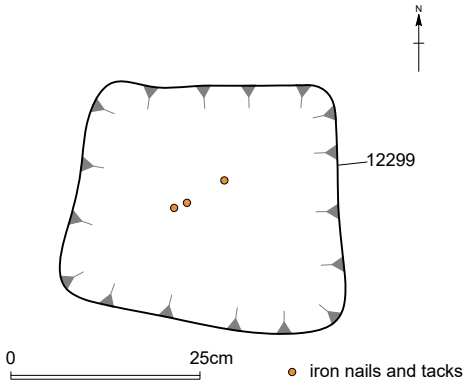


Figure 3.186: Bainesse Cemetery: plan of Grave 264.

Table 3.239: grave catalogue for Grave 264.

Grave cut 12299	
Shape	Sub-rectangular
Max. dimensions	L: 0.39m, W: 0.30m, D: 0.17m
Associated contexts	Cremation deposit 12300; backfill 12304
Cremation deposit	
Weight (g)	84.3
Largest fragment (mm)	26.4
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White, blue/grey
Age	Non-adult
Sex	-
C14 date	cal AD90–100 (1.2%), cal AD124–259 (87.4%), cal AD283–323 (6.8%) (1818±33BP, SUERC-75040/GU44906)
	cal AD175–435
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Context 12300: RF586–8 small iron nails x6; iron tacks x9; cremated sheep/goat bone,
Other finds	Context 12300: magnetic matter; hammerscale; fragment of mussel shell x1, small fragments of unidentified shell; flint debitage x1
	Context 12304: undiagnostic ceramic building material fragments x2; magnetic matter; hammerscale
Environmental	Context 12300: charcoal: *Corylus* (hazel); *Prunus* (stone fruit); undet. hardwood
	Context 12300: charred plant remains: undet. cerealia
	Context 12304: charcoal: *Corylus* (hazel); *Betula* (birch); *Populus/Salix* (poplar / willow)
Interpretative date	AD175–400

GRAVE 265

Table 3.240: grave catalogue for Grave 265.

Grave cut 12317	
Shape	Sub-oval
Max. dimensions	L: 0.60m, W: 0.50m, D: 0.13m
Associated contexts	Fill 12318
Cremation deposit	
Weight (g)	127.8
Largest fragment (mm)	25.8
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White/grey
Age	Adult
Sex	-
C14 date	cal AD80–246 (95.4%) (1841±34BP, SUERC-75033/GU44902)
	cal AD170–435
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	-
Other finds	Pottery sherd x1 (Fabric NV1); glass fragment x1; iron nail x1; magnetic matter; hammerscale; flint debitage x2
Environmental	Charcoal: *Quercus* (oak); *Corylus* (hazel); undet. hardwood
	Charred plant remains: Poaceae undet. >5mm
Interpretative date	AD170–320

GRAVE 266

Table 3.241: grave catalogue for Grave 266.

Grave cut 12302	
Shape	Sub-rectangular
Max. dimensions	L: 0.28m, W: 0.24m, D: 0.12m
Associated contexts	Cremation deposit 12312; backfill 12313
Cremation deposit	
Weight (g)	172.6
Largest fragment (mm)	29.5
Identified elements	Skull, axial, lower limb, long bones
Colour	White
Age	-
Sex	-
C14 date	cal AD68–227 (95.4%) (1875±32BP, SUERC-73402/GU43701)
	cal AD160–425
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Context 12312: Cat. no. 408 nailed footwear represented by x20 (minimum) hobnails
Other finds	-
Environmental	-
Interpretative date	AD160–400

GRAVE 267

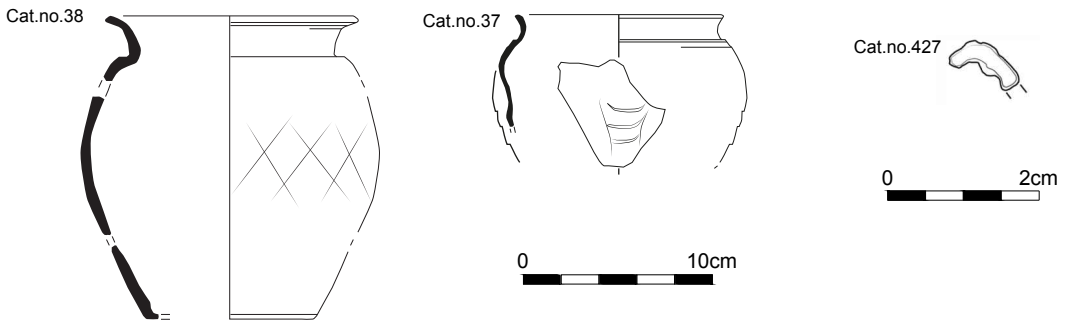


Figure 3.187: Bainesse Cemetery: incomplete ceramic vessels and iron loop from Grave 267.

Table 3.242: grave catalogue for Grave 267.

Grave cut 12301	
Shape	Sub-oval
Max. dimensions	L: 0.60m, W: 0.44m, D: 0.16m
Associated contexts	Fill 12311
Cremation deposit	
Weight (g)	348.4
Largest fragment (mm)	12.7
Identified elements	Skull, axial, upper limb, long bones
Colour	White
Age	Adult
Sex	-
C14 date	cal AD135–333 (95.4%) (1784±32BP, SUERC-73393/GU43694)
	cal AD160–425
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 37 pottery sherds x44 of a partial Nene Valley ware beaker (late 2nd to early 3rd century AD); Cat. no. 38 pottery sherds x30 of a partial reduced coarseware jar (copying a black-burnished ware type of AD180–280); Cat. no. 427 iron loop; Cat. no. 409 hobnail x1 possibly representing a pair of shoes on the pyre; iron tacks x20
Other finds	flint debitage x1; magnetic matter
Environmental	Charcoal: *Acer campestre* (field maple); *Corylus* (hazel); *Corylus/Ligustrum* (hazel/privet); undet. hardwood
Interpretative date	AD195–300

GRAVE 268

Grave **268** was originally excavated as a possible cremation, but no bone or charcoal were present in the sample from the grave fill. The size and shape of the feature suggested it may have been a child's grave.

Table 3.243: grave catalogue for Grave 268.

Grave cut 12305	
Orientation	N-S
Max. dimensions	L: 0.7m, W: 0.37m, D: 0.22m
Associated contexts	Grave fill 12306
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric OA); magnetic matter; hammerscale
Environmental	-
Interpretative date	-

GRAVE 269

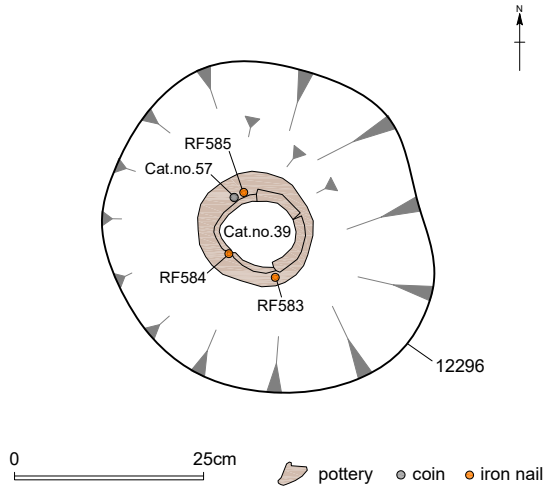


Figure 3.188: Bainesse Cemetery: plan of Grave 269.

The pierced coin (Cat. no. 57) was found lying against the cremation urn. It is unclear whether it was originally tied onto the neck or simply placed next to the urn by a mourner.

Table 3.244: grave catalogue for Grave 269.

Grave cut 12296	
Shape	Sub-circular
Max. dimensions	Dia: 0.44m, D: 0.20m
Associated contexts	Backfill 12293; urned cremation deposit 12294; cinerary urn 12995; loose material 12297; backfill against north side 12303
Cremation deposit	
Weight (g)	56.7
Largest fragment (mm)	38.4
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White, blue/grey
Age	Non-adult
Sex	-
C14 date	cal AD127–261 (81.7%), cal AD278–327 (13.7%) (1806±33BP, SUERC-75041/GU44907)
	cal AD180–440
Grave contents	
Cinerary urn	Context 12995: Cat. no. 39 reduced coarseware jar (likely late 1st-2nd century AD)
Grave goods	Context 12293: Cat. no. 57 pierced copper-alloy coin (Antoninus Pius AD138-61); RF583–5 iron nails x12 and iron tacks x6
Pyre goods	Context 12294: iron tack x1
Other finds	Context 12293: slag; magnetic matter; hammerscale
	Context 12294: magnetic matter; hammerscale
Environmental	Context 12293: charcoal: *Corylus* (hazel)
	Context 12294: charcoal: *Corylus* (hazel)
	Context 12297: charcoal: *Corylus* (hazel)
Interpretative date	AD180–400

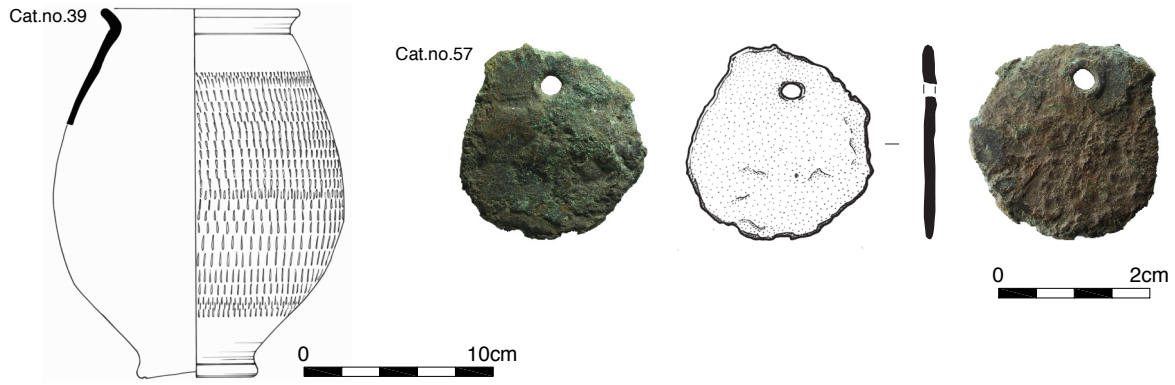


Figure 3.189: Bainesse Cemetery: cinerary urn and pierced copper-alloy coin from Grave 269.

GRAVE 270

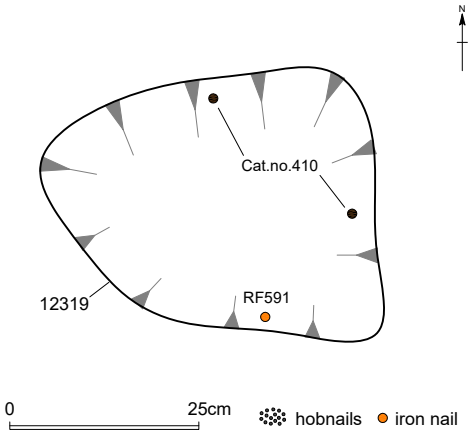


Figure 3.190: Bainesse Cemetery: plan of Grave 270.

Table 3.245: grave catalogue for Grave 270.

Grave cut 12319	
Shape	Sub-rectangular
Max. dimensions	L: 0.46m, W: 0.35m, D: 0.08m
Associated contexts	Fill 12320
Cremation deposit	
Weight (g)	39.6
Largest fragment (mm)	25.5
Identified elements	Skull, long bones
Colour	White
Age	Adult
Sex	-
C14 date	cal AD135–334 (95.4%) (1783±33BP, SUERC-75044/GU44910)
	cal AD195–450
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 410 nailed footwear represented by x24 hobnails (minimum): RF589–90, RF13591; RF591 iron nail x1 and iron tacks x4
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal: *Betula* (birch); undet. hardwood
Interpretative date	AD195–400

GRAVE 271

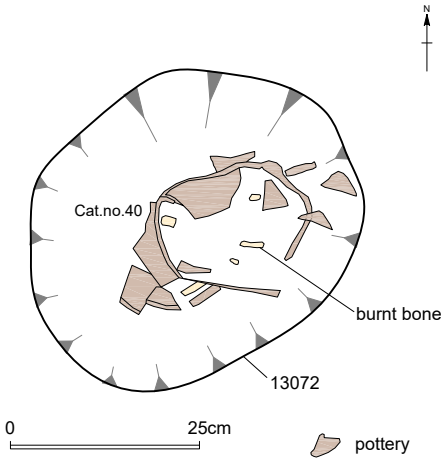


Figure 3.191: Bainesse Cemetery: plan of Grave 271.

Although this cremation had been truncated and therefore disturbed, it appeared that the eight sherds that represented part of a small jar (Cat. no. 41) had originally been contained within the urn. It is suggested that they were a pyre good that had subsequently been placed in the urn prior to burial.

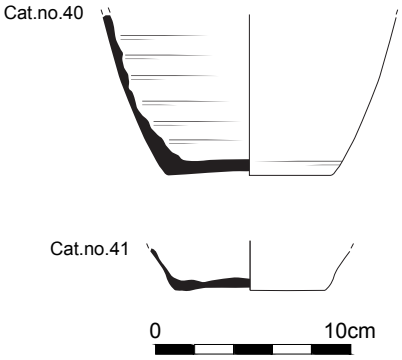


Figure 3.192 (right): Bainesse Cemetery: cinerary urn and incomplete ceramic vessel from Grave 271.

Table 3.246: grave catalogue for Grave 271.

Grave cut 13072	
Shape	Sub-oval
Max. dimensions	L: 0.46m, W: 0.38m, D: 0.12m
Associated contexts	Primary fill 13070; cremation deposit (disturbed from urn) 13071
Cremation deposit	
Weight (g)	234.5
Largest fragment (mm)	46.6
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White
Age	-
Sex	-
C14 date	cal AD84–243 (95.4%) (1840±32BP, SUERC-73403/GU43702)
	cal AD170–435
Grave contents	
Cinerary urn	Context 13071: Cat. no. 40 reduced coarseware jar
Grave goods	-
Pyre goods	Context 13071: Cat. no. 41 partial base and lower body of a reduced coarseware jar (2nd–3rd century AD); RF11377 iron tacks x4
Other finds	Context 13070: magnetic matter; hammerscale
	Context 13071: magnetic matter
Environmental	Context 13071: charcoal: *Quercus* (oak), *Populus/Salix* (poplar / willow)
Interpretative date	AD170–400

GRAVE 272

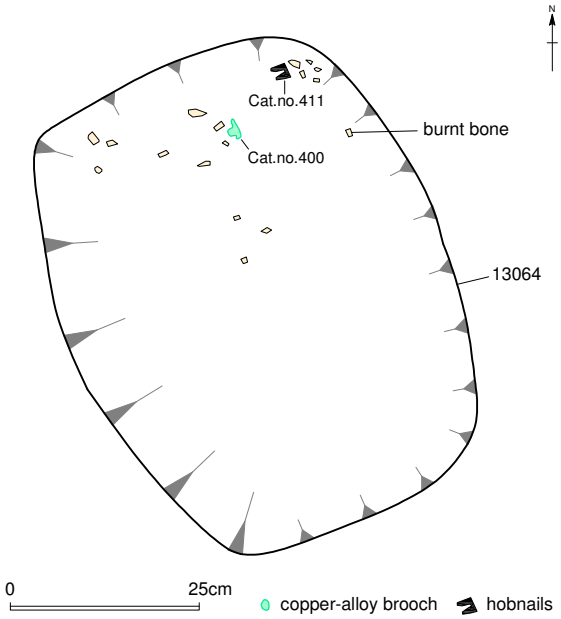


Figure 3.193: Bainesse Cemetery: plan of Grave 272.

The presence of the eight hobnails comprising Cat. no. 411 indicated that footwear was probably included in the burial. The cremation burial was clearly truncated and disturbed by ploughing; as a result, additional finds are likely to have been lost.

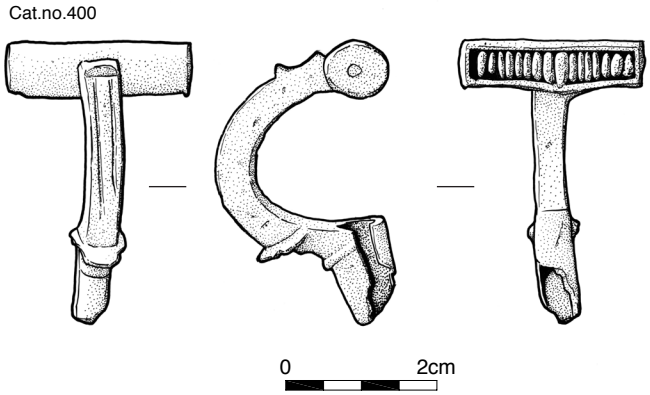


Figure 3.194 (right): Bainesse Cemetery: copper-alloy brooch from Grave 272.

Table 3.247: grave catalogue for Grave 272.

Grave cut 13064	
Shape	Sub-rectangular
Max. dimensions	L: 0.65m, W: 0.50m, D: 0.12m
Associated contexts	Cremation deposit 13062; backfill 13063; cleaning base 13066
Cremation deposit	
Weight (g)	162.1
Largest fragment (mm)	28
Identified elements	Skull, upper limb, lower limb, long bones
Colour	White, grey
Age	-
Sex	-
C14 date	cal AD73–230 (95.4%) (1868±32BP, SUERC-73401/GU43699)
	cal AD160–430
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods?	Context 13062: Cat. no. 400 copper-alloy brooch x1 (3rd century AD, ?first half); Cat. no. 411 hobnails x8; iron tack
Other finds	Context 13062: RF12858 possible minute amber fragments; undiagnostic ceramic building material fragment x1; glass chip (undiagnostic)
	Context 13063: RF12867 copper-alloy scrap
	Context 13066: magnetic matter; hammerscale
Environmental	Context 13063: charcoal: *Corylus* (hazel); Maloideae (pomaceous wood); undet. hardwood
Interpretative date	AD160–400

GRAVE 273

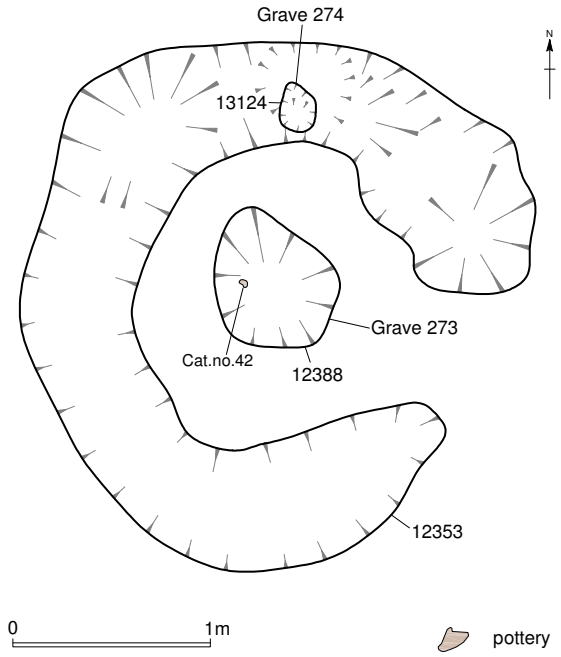


Figure 3.195: Bainesse Cemetery: plan of Graves 273 and 274.

This cremation burial had been heavily truncated by ploughing, with only the base and part of the lower body of the urn surviving. The cremation deposit had been partially spread outside the urn. The cremation burial was enclosed by the penannular gully **12332**/**12353**, which contained pottery dated to AD200 or later.

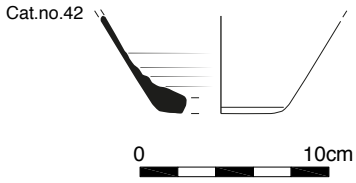


Figure 3.196 (right): Bainesse Cemetery: cinerary urn from Grave 273.

Table 3.248: grave catalogue for Grave 273.

Grave cut 12388	
Shape	Sub-oval
Max. dimensions	L: 0.76m, W: 0.61m, D: 0.15m
Associated contexts	Cinerary urn 12351; urned cremation deposit 12352; cremation deposit outside urn 12354; backfill 12397
Cremation deposit	
Weight (g)	20.2
Largest fragment (mm)	25.9
Identified elements	Skull, long bones
Colour	White, grey
Age	Adult
Sex	-
C14 date	cal AD180–185 (0.4%), cal AD214–391 (95.0%) (1748±34BP, SUERC-75050/GU44913)
	cal AD250–455
Grave contents	
Cinerary urn	Context 12351: Cat. no. 42 black-burnished ware jar (?3rd century AD)
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	-
Interpretative date	AD250–400

GRAVE 274

This cremation was cut into the primary silting within the base of the penannular gully **12332/12353**. Therefore, it is likely to be later than, but possibly associated with, Grave **273**.

Table 3.249: grave catalogue for Grave 274.

Grave cut 13124	
Shape	Irregular
Max. dimensions	L: 0.27m, W: 0.18m, D: 0.09m
Associated contexts	Fill 13125
Cremation deposit	
Weight (g)	350
Largest fragment (mm)	25
Identified elements	Skull, axial, upper limb, lower limb, long bones
Colour	White, grey
Age	Non-adult
Sex	-
C14 date	1. 46 cal BC–cal AD85 (95.4%) (1972±31BP, SUERC-73521/GU43700)-anomalous?
	2. cal AD133–333 (95.4%) (1787±34BP, SUERC-75042/GU44908)
	cal AD235–460
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	Charcoal: *Fraxinus* (ash); undet. hardwood
Interpretative date	AD235–400

THE INHUMATIONS

THE GRAVE CUTS

The shape of the graves ranged from regular sub-rectangular with rounded corners to less regular elongated ovals. The largest graves measured in the region of 2.65m long by 1.3m wide, while the smallest was 0.70m long by 0.37m wide. The deepest example measured 1.15m from the existing surface of the natural gravel, which had been truncated by ploughing. No evidence survived to indicate the level of the Roman ground surface and hence the original depth of the burials.

Orientation

The grave cuts were aligned in all directions. The most frequent was south-southeast to north-northwest (parallel to the west-southwest boundary), as demonstrated by 55 examples. In this group, the most favoured orientation for the body, where skeletal evidence was available, was with the head to the north-northwest, as seen in 24 examples, with only eight being orientated in the opposite direction. The second most frequent alignment of the grave cuts was east-northeast to west-southwest (parallel to the north-northwest boundary), as seen in 37 examples. In 16 of these, the head was orientated to the west-southwest, with eight orientated the opposite way.

Re-opened or 'stacked' graves

There were four examples where a later grave coincided so closely with the site of an earlier burial that it seemed likely to be a deliberate act rather than the result of chance. Grave **16**, which contained the remains of a female aged at least 46, was cut by Grave **15**, which contained the remains of a male aged 18–25. Grave **57**, which contained the remains of a probable male aged at 26–35, was cut by Grave **56**, which contained the remains of an adult aged at least 18. Grave **77**, which contained the remains of an adolescent aged 14–16, was cut by Grave **78**, which contained the remains of a probable female aged 26–35. Finally, Grave **86**, which contained the remains of a probable male aged 26–35, was cut by Grave **87**, which contained the remains of a probable male aged at least 46. The significance of these re-opened or 'stacked' graves is addressed in the discussion towards the end of the chapter.

POSITION

Where skeletal evidence survived, it indicated that most individuals were buried in a supine position. The exceptions were Grave **16**, in which the torso was tilted to the left; Graves **77**, **135** and **198**, where the torso was tilted to the right; Graves **73** and **123**, in which the torsos

were on their right side; and Graves **234** and **237**, in which the skeletons were found in a prone position. Both prone burials were located towards the southern end of the cemetery. In Grave **92** the damaged skull of Skeleton 12454 appeared to be face down, but not enough of the remaining skeleton survived for an accurate interpretation of the position.

Burial with both arms extended or slightly angled away from the torso appeared to be very uncommon. Where the position was sufficiently clear, only three such examples were recorded (Graves **22**, **186** and **231**). The position of the bracelets and the minimal associated bone that survived in Grave **149** suggested the likelihood that the arms were . In Grave **208**, the right arm was extended beyond the head with the elbow raised, and the left was angled away from the torso, although this may have been the result of disturbance, which was also suggested by the total absence of the lower spine, pelvis and legs. In the remainder of the burials, the arm position was varied, but all had either one or both arms flexed over (or under in the case of the prone and some of the side and tilted burials) the pelvis, abdomen or thorax.

There were 60 burials in which the leg position was known, of which 46 were extended, nine flexed or semi-flexed to the right, and three flexed or semi-flexed to the left. In Grave **77**, where the torso tilted right, the femora splayed out from the pelvis, the left knee pointing up and the right leg flexed to the right, with the lower legs coming back together so that the feet lay adjacent to each other. In Grave **187**, the right leg was extended, while the left was semi-flexed to the right with the left knee raised over the right knee.

Decapitated burials

Graves **217** and **244** were the only examples of decapitated individuals. In both cases, the skull had been placed beyond the feet and the graves also contained elements of a cist. Grave **217** was located in the south-western part of the cemetery, while Grave **244** was the only burial that was slightly detached from the south-western corner of the cemetery and cut into the enclosure ditches. In each case, there was insufficient bone survival to determine any detail of the process of decapitation.

GRAVE FURNITURE

Coffins

At least 49 graves contained evidence for nailed coffins. Grave **162** might be considered as a further example. However, it is possible that the nails recorded were part of the coffin in Grave **163**, a later interment that slightly overlapped Grave **162**.

The number of nails used for each coffin ranged from minimums of five to 46. The actual totals are likely to have been higher as, in order to avoid 'double-counting' of fragmented nails, only examples with heads have been included (Croom pers. comm.). Some of the smaller totals may not reflect the original numbers due to poor preservation and truncation. A small number of additional fixings and fittings, comprising staples, spiked loops and iron strips, were recovered from Graves **10**, **17**, **42**, **44**, **186** and **202**.

Where the age of the individual contained within a nailed coffin could be ascertained, the totals comprised 16 adults (of which three were male, two probably male, and two female), one adolescent, 12 juveniles, four other non-adults and a single infant. Extrapolation from the coffin or grave dimensions suggested a further two adults, three adolescents/adults, five juveniles and three infants. The remaining two graves were too truncated to make an estimation.

In five graves (Graves **99**, **201**, **202**, **209** and **229**), deposits of cobbles had been placed around the outside of the coffin. It seems possible that this resulted from the deliberate selection of larger stones from the spoil that were then carefully replaced within the grave to avoid damage to the coffin. A further four graves with no evidence for a nailed coffin (Graves **195**, **204**, **208** and **226**) contained similarly positioned cobble deposits, suggesting the possibility that coffins manufactured without nails were also used within the cemetery.

The spatial distribution of nailed coffin burials occurred across the entire exposed area of cemetery, with no particular pattern in evidence. However, all but one of the burials that contained a deposit of cobbles around the coffin, and all of those with cobbles and no evidence for a nailed coffin, were in the southern part of the cemetery.

Cists

Cists, or elements of cists, were present in three graves (Graves **217**, **237** and **244**), all of which were located in the south-western part of the cemetery. Skeleton 13104 (Grave **237**) was interred in a stone slab cist, which consisted of a base, upright ends, a partial upright west side, and a partially collapsed or disturbed cover. The two upright end slabs and the two base slabs at the head and feet, were reused armchair voussoirs (see 'Inhumation grave furniture' in Chapter 8). The disarticulated bones of Skeleton 13076 (Grave **237**) were strewn over the capping slabs. In Grave **217**, the sides of the burial were partially lined with cobbles, and subsequently covered by stone slabs. Only the stone-slab base of the cist in Grave **244** survived. The bodies in Graves **217** and **244** had been decapitated, while that in Grave **237** lay prone.

ARTEFACTS FROM INHUMATIONS

Nailed footwear

A total of 30 inhumations were accompanied by nailed footwear, represented by assemblages of iron hobnails. Two more inhumations (Graves **147** and **181**) contained smaller groups of hobnails (15 and 12 examples respectively) located in positions suggestive of nailed footwear. A further 12 graves contained small numbers of hobnails indicating possible or disturbed nailed footwear. The 32 graves containing certain or likely nailed footwear included 22 adults, two adolescents, and two juveniles. A further three adults and three juveniles were surmised from the grave dimensions. Where the sex or probable sex of the individuals could be ascertained, the totals were five males, three probable males and three females. The hobnails were recorded in close association with the feet in 16 burials and appeared to represent footwear worn by the deceased, including two graves where shoe plates were also present. In a further 10 burials, the hobnails were found in positions compatible with footwear being worn, although there was insufficient skeletal material for this to be conclusively proven.

Grave **61** contained what appeared to be a pair of nailed footwear, which had been placed in the area of (and probably under) the lower right leg and ankle. In Graves **149** and **216**, the pattern of hobnails suggested only one item of footwear was present. In Grave **149**, these were located presumably in the area of the lower right leg, lying flat on the sole, and so may not have been worn, while in Grave **216** they were located in the area where the right foot would be, again suggested only one item of footwear lying flat on the sole. A concentrated group of hobnails in Grave **168** probably represented disturbed footwear.

In the case of Grave **229**, an additional pair of footwear had been placed within the coffin alongside the lower left leg and foot. Graves **81** and **219** also appeared to contain two pairs of footwear, located within the foot end of the coffin in the case of the latter and presumably at the foot end in the former, where no skeletal remains survived. All the hobnails in these graves appeared to represent footwear lying flat on the soles, so whether any were actually being worn is open to question.

Several other inhumations contained small numbers of hobnails, which were interpreted as random redeposited items within the backfill, except for Grave **194** and **208**, where small numbers of hobnails (six and three respectively) were recorded adjacent to the feet.

The distribution of burials containing nailed footwear occurred across the entire exposed area of cemetery. Possible patterning in the distribution of these graves is discussed further below.

Placed ceramic vessels

Single ceramic vessels were recorded in seven graves (Graves **36**, **44**, **161**, **191**, **199**, **205** and **256**), comprising two samian cups, two beakers and three jars. A further five graves (Graves **177**, **181**, **219**, **239** and **240**) each contained two vessels, which were mostly beakers. In addition, Grave **201**, which contained two beakers, also contained the substantial remains of a jar that, although heavily disturbed by the later ring ditch (**12500**), probably represented a third placed vessel. In nine of the graves, all but one of which contained juveniles (the age of two being surmised from the coffin size), the individual was contained in a nailed coffin into which the vessels had also been placed. Of these, there were six instances of vessels placed at the head end, two at an indeterminate end, and one in the presumed knee area. Grave **239**, which had no evidence for a nailed coffin, contained two beakers that had been placed next to the right side of the abdomen of a female aged 36–45 years. Grave **256** was so severely truncated that only a shallow scoop containing the base of an apparently placed jar survived. Grave **161**, which contained no skeletal remains and no evidence of a nailed coffin, contained a samian cup that was 0.5m from the north-east end of the grave. Grave **36** also contained a samian cup, which was found against the side of the grave and 0.20m above the base. As a result, its location cast some doubt on whether it could be accurately described as a 'placed' vessel, and it may have been included as an afterthought once the backfilling had begun.

Two of the graves that contained a single vessel were located towards the northern end of the cemetery, while the remainder of the single vessel and all the multiple vessel burials were restricted to the southern area. The production dates for the majority of the pottery, which consisted largely of beakers, ranged from AD150–280, with the exception of a beaker in Grave **44** (AD120–80), and the samian cups in Grave **161** and **36** (AD120–200).

Redeposited ceramic vessels

Graves **81**, **149**, **163**, **172** and **215** contained scattered sherds from incomplete single vessels. The most likely explanation for their presence is that they represented redeposited grave goods from earlier burials or broken vessels from the ground surface. Grave **81** contained nine sherds from an incomplete ceramic jar located outside the presumed head end of the nailed coffin. The incomplete nature of the vessel, and the fact that it lay in two distinct clusters at each corner of the end of the coffin, suggested that this probably represented a redeposited grave good rather than it being deliberately broken in the grave. In the case of Grave **163**, it is possible that the beaker in question originated from either Grave **162**, **164**, or **167**, all of which had suffered substantial

truncation by Grave **163**. Graves **149**, **172** and **215** were not recorded as having stratigraphic relationships with other burials.

Smashed ceramic vessels

What appeared to be deliberately smashed ceramic vessels were recorded in two burials. Grave **64** contained the remains of two vessels, one complete and one substantially complete, which had been deposited against the exterior of the head end of a nailed coffin. The coffin measured approximately 1.00m long, suggesting the presence of a juvenile burial. Grave **229** contained the remains of three substantially complete broken beakers, which had been deposited at the foot end of the nailed coffin. Most of the sherds were located outside the coffin, indicating the probability that the vessels had been thrown into the grave onto or around the closed coffin. The few sherds recovered from within the coffin are suggested to represent those that remained on the lid and subsequently fell through the decayed timber. The coffin contained Skeleton 13079 (Grave **229**), which has been identified as an adolescent aged 12–14 years.

Personal adornment

The most frequent items of personal adornment worn by individuals were copper-alloy bracelets, armlets and anklets, which occurred in six of the graves. Graves **16** and **35**, the former a female aged at least 46 and the latter an unsexed adult, both wore anklets on the right leg. Grave **119**, a female aged 26–35, wore anklets on both legs and an armlet on her upper right arm. Unfortunately, the left arm had been removed by a later burial. Grave **130**, an unsexed adult wore an armlet on the upper right arm. Grave **149**, assumed to be an adult based on the length of the grave, wore a single bracelet on each arm. In Grave **235**, a juvenile aged 3–5 was found wearing bracelets on both arms and a necklace of glass and jet beads with a possibly associated copper-alloy loop, which represented the only other example within the cemetery of personal adornment being worn at the time of burial. The distribution of burials wearing items of personal adornment occurred across the entire exposed area of cemetery with no particular pattern in evidence.

Other small clumps of beads and/or other decorative items were found in five graves, none of which contained any skeletal remains, but the dimensions of the grave cuts suggested they were intended for infants or juveniles. None of these items appeared to have been worn, but it is likely that they were strung together and/or contained in a bag or box. Grave **103** contained an assemblage of glass beads, along with a copper-alloy *bulla*-type amulet, and a copper-alloy pendant. Grave **148** contained a pierced copper-alloy coin, probably of Antoninus Pius, an unpierced lead disc, a pair of linked copper-alloy rings, and a dog/fox tooth with fragments of copper-alloy. Grave **180** contained an assemblage of glass and jet beads, along with a copper-alloy phallic pendant. Grave **203** contained a possible copper-alloy phallic amulet and a small number of copper-alloy beads, one of which retained a short length of string within the hole. The material used to form the string was identified as club moss and represents its first known use in Roman Britain (Gleba *et al*. 2018; see also Chapter 8). Finally, Grave **221** contained a small assemblage of glass and copper-alloy beads, along with a pierced copper-alloy coin of Antoninus Pius. The distribution of burials containing these items of personal adornment was limited to the southern two-thirds of the cemetery.

In addition, Grave **82** contained a single gold and glass bead, which was located roughly centrally on the base of the grave, although it was impossible to determine whether it was placed or an accidental inclusion. The grave contained a partial mandible belonging to an individual aged 13–17 years, but it seems unlikely that this represented the primary burial in a grave that measured only 1.00m long. Grave **150**, which was 1.45m long and included no skeletal remains, contained a copper-alloy *bulla*-type amulet and a copper-alloy loop, which were deposited 0.36m apart.

Grave **194**, that of a juvenile aged 3–4 years, contained a bracelet and a possible finger-ring, which were located adjacent to the lower end of the left femur. A single, possibly associated hobnail was located within the bracelet. Grave **198**, that of a probable male aged 26–35 years, contained an iron bracelet located adjacent to the mandible. Both burials were located in the southern part of the cemetery in the vicinity of, and the latter actually cut by, ring ditch **12500**.

Other possible grave goods

Several burials contained items that were less certainly grave goods, in several cases because they were either incomplete or found within the grave fill above the level of the human remains. Grave **22** contained a possible fragment of a knife blade. Some small fragments of leather were retrieved from a bulk sample of the fill of Grave **99**. Grave **175** contained a narrow iron strip of rectangular cross-section with both ends bent down, which was lying on the skull of Skeleton 13161. Grave **194** contained a pierced ceramic disc and a copper-alloy stud, while Grave **209** contained another copper-alloy stud. Grave **208** contained a whetstone or polisher and Grave **195** contained part of a broken whetstone.

ANIMAL REMAINS

Grave **240** contained a partial immature galliform skeleton, probably from a chicken, which was located

outside the nailed coffin used in the burial and 0.20m above the base, against the side of the grave.

REDEPOSITED HUMAN BONE

The intercutting of many graves resulted in bone being disturbed from its primary location and redeposited in later burials. Presumably some would have also been left on the ground surface and become integrated within the cemetery soil, creating the opportunity for inadvertent inclusion in subsequent burials.

There were three examples of graves within the cemetery where the source, or likely source, of the redeposited bone was known. Grave **124** contained two right femora, two left femora, a right tibia, a left fibula, and fragments of pelvis, which were deposited at various levels within the primary backfill. The bones were likely to have derived from Graves **125** and **130**. In both graves, the lower parts of the skeletons had been truncated by Grave **124**.

The disarticulated bone comprising Skeleton 13076 in Grave **237** was strewn over the capstones of the cist containing the primary burial. It seems probable that this bone would have derived from Skeleton 13132 in Grave **238**, all of which, aside from the right arm and shoulder, had been truncated by Grave **237**.

The legs of Skeleton 13152 in Grave **198** had been completely truncated by Grave **197**. The right femur and both tibiae were placed alongside the skeleton in the later burial, and the fibulae were included in the backfill (all of the elements being designated as Skeleton 13173). It is also worth noting that a human adult left femur was found in the top fill of ring ditch **12500**, which cut both graves. The location of the femur was immediately adjacent to the graves, suggesting that, if it was indeed the missing bone from the earlier grave, it had first been redeposited with the later burial, then moved again by the excavation of the ring ditch. The fact that it remained in the immediate vicinity, so that it ended up in the backfilled ditch adjacent to the burials, suggests the probability that the ditch enclosed a mound, in which the bone was sealed for a time.

The backfill (**12519**) of the ditch terminal (**12520**), situated on the north side of the enclosure entrance at the western edge of the cemetery, contained 26 generic cortical fragments of human bone, which were likely to have originated from within the cemetery. The same fill contained pottery, which provided a *terminus post quem* of AD230.

GRAVES CONTAINING CREMATED BONE

Small quantities (0.1–133.6g) of cremated human bone were recovered from samples of the backfill of 27 inhumations (often accompanied by other unidentifiable fragments), and another grave contained only unidentified burnt bone. This bone consisted of flecks and small fragments mixed uniformly with the grave fill and was probably derived from material once lying on the ground surface within the cemetery. Most of the graves with cremated bone that has been definitively identified as human were located in the southern three-fifths of the cemetery, where the majority of the cremation burials were located, although two were located towards the northern end of the area.

GRAVE CUTTING THE ENCLOSURE DITCHES

With one exception, all the graves respected the eastern side and the continuation of the alignment of the southern side of the adjacent enclosure. The exception was Grave **244**, a late grave with a modelled radiocarbon determination of cal AD325–455, which cut all three elements of the southern enclosure boundary. Pottery retrieved from the backfill of the inner ditch (**12368**) provided a *terminus post quem* of AD270.

POSSIBLE GRAVE MARKERS

Two features within the cemetery were located adjacent to the ends of graves and could possibly have held grave markers, such as posts or stones, although there was no clear evidence for this. Pit **12459**, which was sub-oval and measured 0.90m long, 0.60m wide and 0.10m deep, was located close to the southern end of Grave **92** and the north-eastern end of Grave **96**. The silty gravel fill contained no packing stones. Pit **12707**, which was sub-circular and measured 0.70m in diameter and 0.10m deep, slightly cut the western end of Grave **86**, and again contained no packing stones. Both features were irregular in profile; an alternative interpretation is that they may represent tree or bush throws, although such plants could also conceivably have functioned as grave markers.

THE EARLY MEDIEVAL INHUMATION

A single Anglo-Saxon burial (Grave **175**) contained a probable female of at least 36 years of age. The burial was located relatively centrally within the excavated part of the cemetery, adjacent to the post-medieval field boundary bisecting the area. The burial, which was radiocarbon dated to cal AD905–920 (3%) or cal AD965–1025 (92%), may have been unfurnished; the only finds from the grave fill were an iron nail and a piece of iron strip, which may have been residual inclusions.

THE CREMATION BURIALS

THE CREMATION BURIAL PITS

The shape of the burial pits ranged from sub-circular, through ovoid, to sub-rectangular. The maximum size was 1.05m by 0.63m, and the minimum was 0.28m by

0.24m. The depths ranged from 0.06m to 0.28m. Grave **258**, one of the two cremation burials located in the central part of the site (Fig. 3.5), was situated on top of an inhumation (Grave **151**). In plan, it appeared to be a sub-circular pit cut into the grave, but no distinct edges of a cut were discernible during excavation, and it seems possible that it represented a discrete inclusion in the grave fill.

URNED CREMATION BURIALS

Five of the 17 cremation burials had been placed in cinerary urns, all of which were located within the main cluster at the southern end of the cemetery. The most intact examples were those within Graves **260** and **269**, which had been truncated by ploughing, affecting only the top of the urns. Therefore, the vessels had survived largely undamaged.

In Grave **271**, the lower part of the urn and its associated fill survived, along with some fragments of the upper part. Graves **261** and **273**, on the other hand, were severely truncated, and only the base and a minimal amount of the body of the urns in these graves survived. The remnants of the cremation deposits were also disturbed and partly spread outside the urns.

ARTEFACTS FROM CREMATION BURIALS

Fragmented ceramic vessels

Significant quantities of redeposited fragmented ceramic vessels were recorded in five cremation burials. Grave **257** contained nine burnt and partially oxidised sherds from a beaker, and three burnt and mostly oxidised sherds from a black burnished ware vessel, all of which probably derived from a pyre, while the fill of the cinerary urn in Grave **261** included eight sherds from a second jar. Similarly, Grave **271** contained eight unburnt sherds from a jar, which, though disturbed, appeared to have been included within the larger jar used as a cinerary urn.

The cremation deposit in Grave **263** contained 75 sherds from a single jar. All the sherds were burnt, suggesting that they derived from a vessel which had been placed on the pyre. The backfill of the burial also contained 33 unburnt sherds from a different jar. Likewise, the single fill of Grave **267** contained 44 sherds from a beaker and 30 sherds from a jar, all of which were burnt, again suggesting the presence of pyre goods.

Nailed footwear

Hobnails were recorded in nine of the cremation burials. Substantial totals were present in four, suggesting that nailed footwear had been included within them, with smaller numbers in the remainder.

The single fill of Grave **257**, one of the two cremation burials located in the central part of the site, contained a minimum of 27 hobnails. The cremation deposit within Grave **266** contained 20 hobnails, while the single fill of Grave **270** contained a minimum of 24 hobnails.

The cremation deposit within Grave **259** contained four hobnails. However, this burial had been cut by Grave **260**, which contained a minimum of 23 hobnails in the backfill that had been redeposited around the urn, perhaps indicating that some or all of these hobnails originated from the earlier burial. The cremation deposit within Grave **272** contained eight hobnails. However, at only 0.08m deep, it appeared that this burial had suffered severe truncation and it is likely that any other finds have been lost as a result.

The cremation deposit within Grave **263** contained three hobnails and the single fill of Grave **267** contained one. However, these two burials also contained fragmented remains of different ceramic vessels, which may suggest that the use of a common pyre site had resulted in inclusion of material residual from earlier cremations, including occasional hobnails. The single fill of Grave **258** also contained a single hobnail.

Personal adornment

Only two of the cremation burials contained items of personal adornment. Grave **269** contained a pierced copper-alloy coin of Antoninus Pius, which had probably been used as an amulet. The coin was lying against the shoulder of the cinerary urn as if tied onto the neck by a mourner. Grave **272** contained a copper-alloy continental P-shaped brooch, dated most probably to the first half of the 3rd century AD.

CREMATED ANIMAL BONE

Cremated lower leg/foot bones of sheep or goats, presumably representing pyre goods, were included in Graves **257** and **264**.

OTHER POSSIBLE GRAVE/PYRE GOODS

Grave **262** contained a mineralised grape pip, which possibly derived from the funerary rites associated with the cremation. In addition, the cremation deposit within Grave **263** contained a small fragment of silver, the single fill of Grave **267** contained an incomplete iron loop, and the fill of Grave **270** contained a single nail. Small quantities of iron tacks, presumably associated with burnt pyre goods, were recorded in Graves **264**, **267**, **270**, **271** and **272**.

PENANNULAR GULLY

Penannular gully **12353**, which measured up to 0.80m wide and 0.28m deep, with an external diameter of

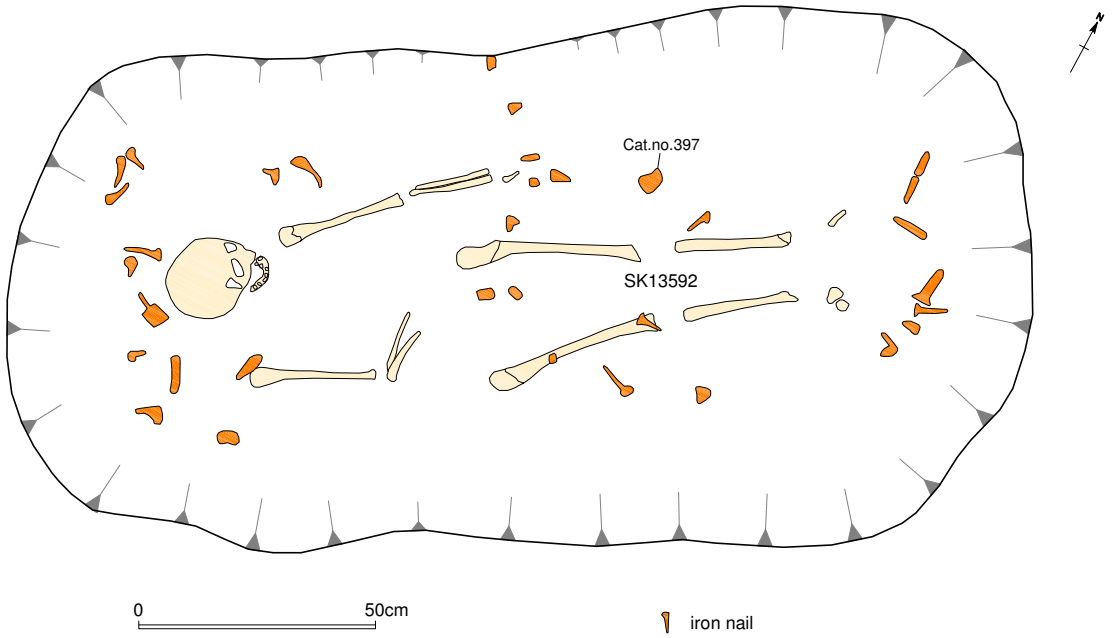


Figure 3.197: Bainesse Field 163E: plan of Grave 13586.

2.70m, enclosed the urned cremation burial within Grave **273** (Fig. 3.5). The secondary fill of the gully contained 40 small fragments of cremated human bone. The gully also contained pottery sherds from a beaker and a burnt jar, and 19 hobnails. Some of the material from the secondary fill could have derived from activities associated either with the primary cremation burial (Grave **273**) or the secondary cremation burial (Grave **274**), which was cut into the primary fill but sealed by the secondary fill.

STRATIGRAPHIC RELATIONSHIPS BETWEEN CREMATION BURIALS AND OTHER FEATURES

Graves **262** and **263** were both cut into the backfill of ring ditch **12500**, which was itself later than several of the inhumations. Five more cremation burials were found to be stratigraphically later than an inhumation: Grave **258** was above Grave **151**; Graves **259** and **260**, the latter cutting the former, were both above Grave **202**; Grave **261** was above Grave **225**; and Grave **270** was located above Grave **233**. Finally, Grave **274** was cut into the primary silting of the penannular gully **12353**, which enclosed Grave **273**.

FIELD 163E

Field 163E was the location for a new access from the former A1(T) northbound carriageway into the field (SE 2382 9738), approximately 80m north-east of the excavated part of Bainesse Cemetery (see Fig. 3.1). The excavated area measured up to 14m by 14m, and a single inhumation (Grave **13586**) was the only Roman period feature present. As it is currently unknown how far the cemetery extended to the north-east, it is possible that this burial was actually located within it; however, the fact that the area was devoid of other burials suggests that this was an isolated grave.

GRAVE 13586

The grave was sub-rectangular with rounded ends, measured 2.18m long, 1.12m wide and 0.58m deep, and was oriented east-northeast to west-southwest. It contained the skeleton of a probable female aged 26–35 years, which was found supine with legs extended, the left arm , and the right arm flexed over the abdomen. The head was at the west-southwestern end of the grave. The individual was contained in a nailed coffin, which measured approximately 1.77m by 0.57m by at least 0.19m high and contained 22 nails and an iron loop.

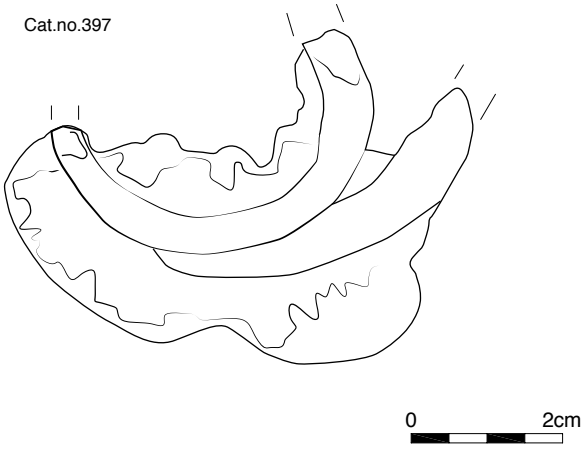


Figure 3.198: Bainesse Field 163E: iron loop from Grave 13586.

Table 3.250: grave catalogue for Grave 13586.

Grave cut 13586	
Orientation	ENE-WSW
Max. dimensions	L: 2.18m, W: 1.12m, D: 0.58m
Associated contexts	Grave fill 13585; coffin fill 13593
Skeleton 13592	
Orientation	Head to WSW
Posture	Supine; head tilted left; legs extended, parallel
Arm position	Left extended alongside torso, right flexed at elbow, hand over abdomen
Sex	Female?
Age	26–35
Completeness	30%
Preservation	Very poor
Dental pathology	Calculus
Pathology	Cribra orbitalia; sinusitis
Stature (mm)	-
C14 date	cal AD60–215 (95.4%) (1888±29BP, SUERC-73020/GU43708)
Grave contents	
Coffin	Context 13593: RF11990–9, RF12001–28 iron nails x22; Cat. no. 397 iron loop
Ceramic vessel	-
Grave goods	-
Other finds	Context 13585: pottery sherds x10 (Fabric OAA4B); pottery sherd x1 (Fabric GRA6); mortaria sherd x1; animal bone
	Context 13593: pottery sherd x1 (Fabric FLB); pottery sherd x1 (Fabric GRC11 – form and fabric dated AD270+); samain sherd x1; amphora sherd? x1; glass vessel fragment x1; disarticulated human bone; animal bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	AD80–215

FIELD 159A

The excavated area in Field 159A was approximately 10m wide by 55m long. It was located immediately to the south-west of the former A1(T) and in close proximity to Dere Street, which the dual-carriageway overlay (Fig. 3.1). The excavation intersected with part of CfA Site 46 (area SSD13), which had been investigated in the early 1980s in advance of construction of the former A1 Catterick South junction. This had revealed evidence for a timber building, a side road running south-west from Dere Street, inhumations and plot boundary gullies, which were dated to the mid-2nd to 4th centuries AD (Wilson 2002a, 139–85). The recent Field 159A excavation area included one corner of the timber building, plot boundary gullies, several pits and an oven (Fig. 3.199). One of the gullies, which was on a south-east to north-west alignment parallel to Dere Street, appeared likely to represent the rear boundary of the plot containing the building. An inhumation (Grave **13435**) was recorded to the north-east of the gully and a further two burials (Graves **13420** and **13460**) were found south-west of this near a grave recorded during the 1980s investigation. Another severely disturbed, possible inhumation (Grave **13494**) was also located to the south-west of the gully. The placement of the inhumations in close proximity to a building, plot boundaries, and refuse pits suggested back plot burials, as opposed to a formal cemetery. The graves generally shared a common orientation with the plot boundaries. A combination of radiocarbon and pottery dating evidence suggested a date range for Grave **13420** of AD200–344, which falls within the likely period of habitation. The suggested date range for Graves **13435** and **13460** was in the region of AD330–530.

FIELD 159A GRAVE CATALOGUE

Grave 13420

The worked stones included in the cist were identified as reused armchair voussoirs from a Roman bath house (see Figs 3.200 and 3.201. Grave **237** within Bainesse Cemetery also contained a cist that included four further examples of this architectural feature. Skeleton 13454 was found wearing nailed footwear containing a minimum of 22 hobnails.

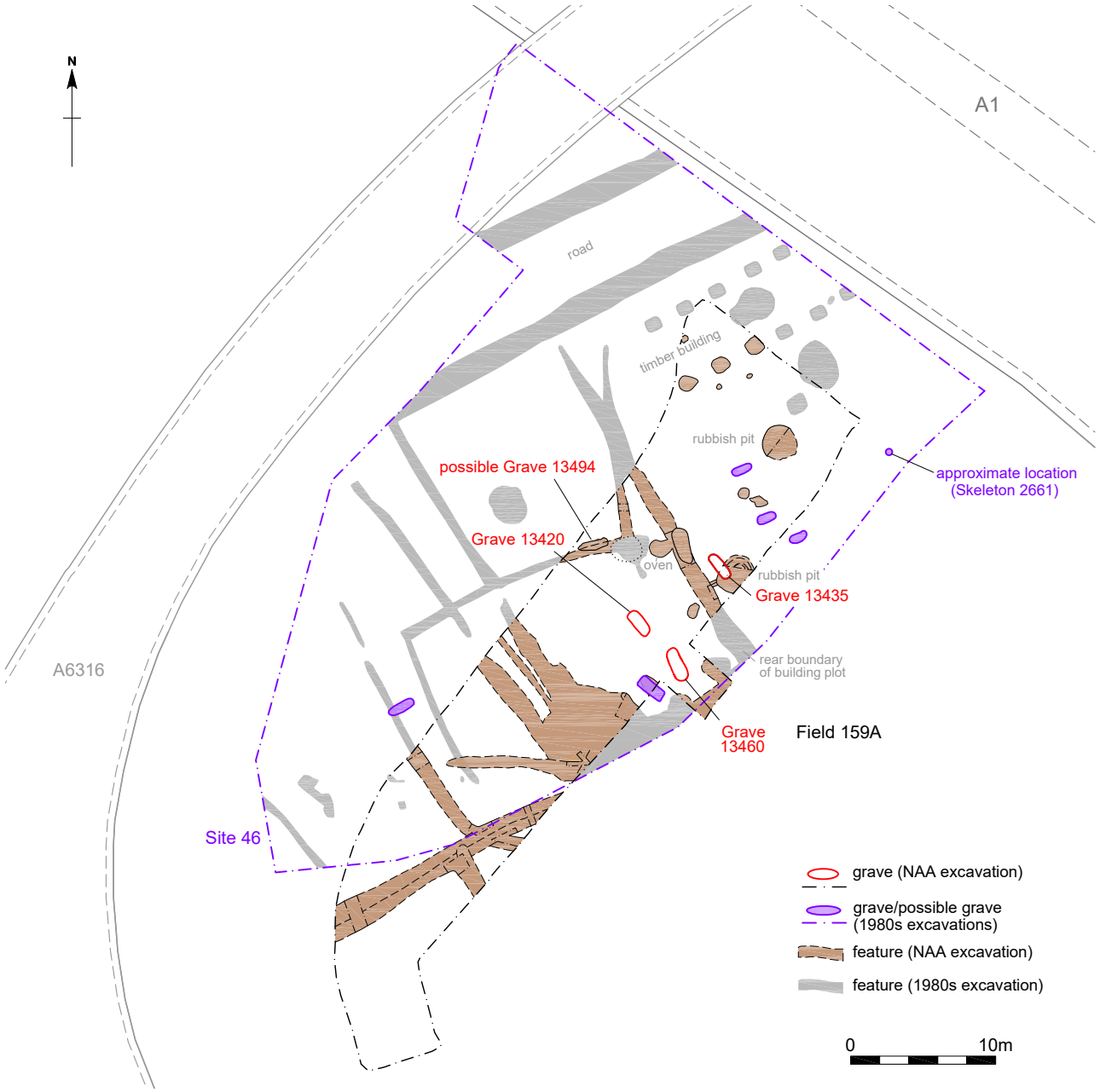


Figure 3.199: plan of Field 159A showing the A1 scheme burials alongside previously excavated features.

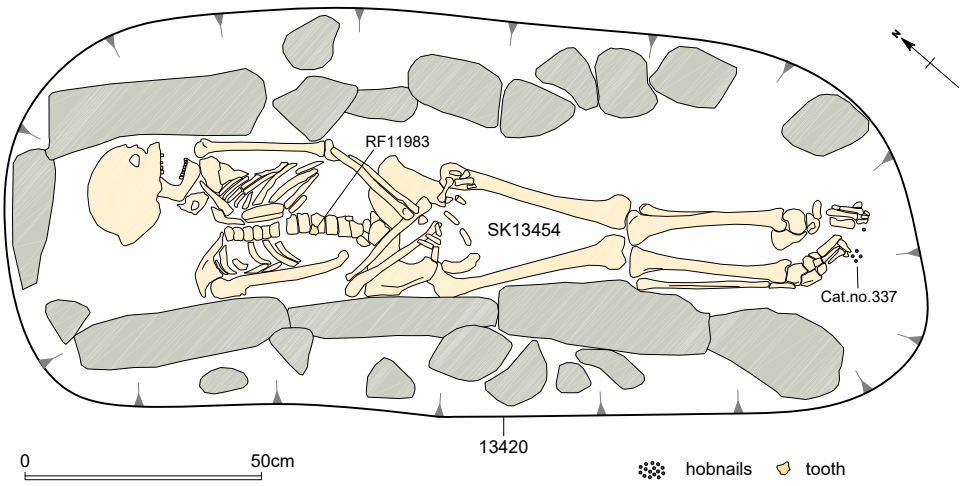


Figure 3.200: Bainesse Field 159A: plan of Grave 13420.

Table 3.251: grave catalogue for Grave 13420.

Grave cut 13420	
Orientation	SE-NW
Max. dimensions	L: 1.94m, W: 0.86m, D: 0.35m
Associated contexts	Upper grave fill 13421; secondary cist fill 13438; primary cist fill 13463; fill around cist 13475
Skeleton 13454	
Orientation	Head to NW
Posture	Supine; head facing left; legs extended, knees together
Arm position	Flexed at elbows, hands crossed on pelvis
Sex	Male
Age	46+
Completeness	90%
Preservation	Poor
Dental pathology	Calculus, caries, periodontal disease, abscess, asymmetrical wear; DEH
Pathology	Degenerative disc disease and DJC in thoracic spine; periosteal reaction and possible inclusion cyst on occipital bone; cribra orbitalia; new bone formation on left os coxa; elongated right, temporal styloid process
Stature (mm)	-
C14 date	cal AD139–199 (9.1%), cal AD207–344 (86.3%) (1770±29BP, SUERC-73024/GU43709)
Grave contents	
Stone cist	Cat. nos 380–385: capping stone RF13433 (including worked stones RF13708–9), sides RF13434 (including worked stones RF13704–7), base RF13464
Ceramic vessel	-
Grave goods	Context 13438: Cat. no. 337 nailed footwear represented by x22 (minimum) hobnails
Other finds	Context 13421: animal bone; pottery sherds x2 (Fabric NV1); pottery sherd x1 (Fabric GRB14); pottery sherd x1 (Fabric O); pottery sherd x1 (Fabric OA); pottery sherd x1 (Fabric GRB16); magnetic matter; hammerscale
	Context 13438: RF11983 animal tooth; animal bone; pottery sherd x1 (Fabric BB2); pottery sherd x1 (Fabric BB1); pottery sherd x1 (Fabric GRB14); pottery sherd x1 (Fabric OA); pottery sherd x1 (Fabric OA); pottery sherd x1 (Fabric NV2); glass vessel fragment; magnetic matter; hammerscale
	Context 13475: pottery sherd x1 (Fabric OA); tile fragment x1; animal bone
Environmental	Context 13421: charcoal: undet. hardwood
	Context 13421: charred plant remains: *Triticum spelta* (spelt); chaff
	Conext 13438: charred plant remains: *Hordeum* (hulled barley); *Triticum* sp. (wheat); *Avena fatua* (wild oat); *Carex* sp. (sedge); *Danthonia decumbens* (heathgrass); *Arrhenatherum elatius* (onion couch seed); *Plantago lanceolata* (ribwort plantain); *Chenopodium* sp. (goosefoot); Poaceae undet. <2 mm; undet. cerealia; undet. 2–5mm; undet. 1–2mm; undet. <1 mm; chaff
Interpretative date	-

Grave 13435

This burial had been truncated by relatively recent groundworks, so that when the modern overburden was removed the partial remains of the skeleton were already largely exposed. The backfill contained three nails of a type recorded in coffin burials within the area; however, the grave was partially dug into earlier waste pit **13501** and it is likely that many of the finds in the grave, including the hinge pivot (RF13679), originated from there.

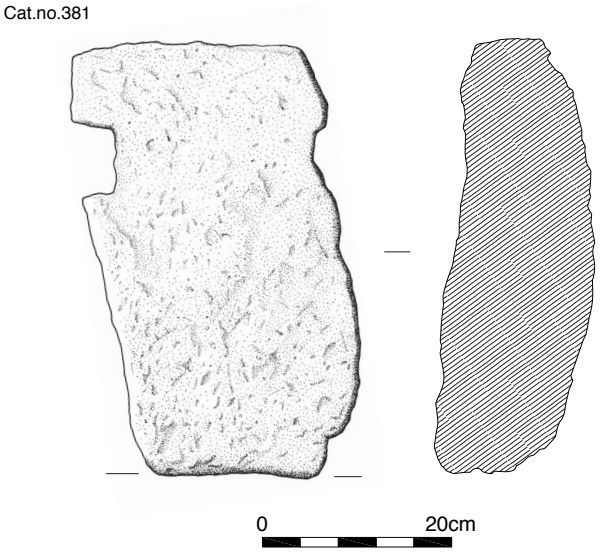


Figure 3.201: Bainesse Field 159A: armchair voussoir from Grave 13420.

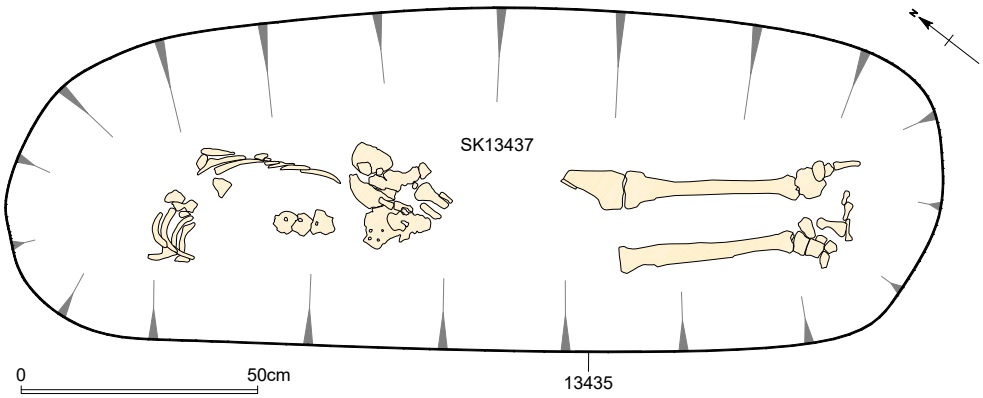


Figure 3.202: Bainesse Field 159A: plan of Grave 13435.

Table 3.252: grave catalogue for Grave 13435.

Grave cut 13435	
Orientation	SE-NW
Max. dimensions	L: 1.90m, W: 0.40m, D 0.02m
Associated contexts	Grave fill 13436
Skeleton 13437	
Orientation	Head to NW
Posture	Supine; legs extended, parallel
Arm position	Partial right hand on pelvis
Sex	Male?
Age	36–45
Completeness	25%
Preservation	Moderate
Dental pathology	-
Pathology	Periosteal reaction on tibiae; DJC and OA in lumbar spine
Stature (mm)	1718.6±33.7
C14 date	cal AD333-435 (81.6%), cal AD454-470 (1.8%), cal AD487-534 (12.0%) (1644±29BP, SUERC-73018/GU43705)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 358 hobnails x2 possibly representing hobnailed footwear
Other finds	RF13679 iron hinge pivot; RF13678 iron nails x3; animal bone; pottery sherds x4 (Fabric GRB16); pottery sherds x2 (Fabric GRA13); pottery sherd x1 (Fabric FLA5); pottery sherd x1 (Fabric GRB16); pottery sherd x1 (Fabric GRC); pottery sherd x1 (Fabric GRB28); samian sherd x1 (DR33); samian sherd x1 (DR37); samian sherd x1 (dish fragment); magnetic matter; fired clay; fuel; hammerscale
Environmental	Charcoal: Maloideae (pomaceous wood); *Betula* (birch); Maloideae/*Tilia* (pomaceous wood/lime); *Cornus/Viburnum* (dogwood/guelder-rose); *Salix* (willow); undet. hardwood
	Charred plant remains: *Triticum monococcum* (einkorn); *Triticum* sp. (wheat); *Hordeum* (hulled barley); *Danthonia decumbens* (heathgrass); *Carex* sp. (sedge); *Lathyrus/Vicia* sp. (vetch); undet. cerealia; undet. 1–2mm
Interpretative date	-

Grave 13460

The rough cobble lining (**13529**) was reminiscent of nine similar deposits recorded in graves within Bainesse Cemetery. In this case, there was no material evidence of a coffin, suggesting that an un-nailed coffin may have been present instead.

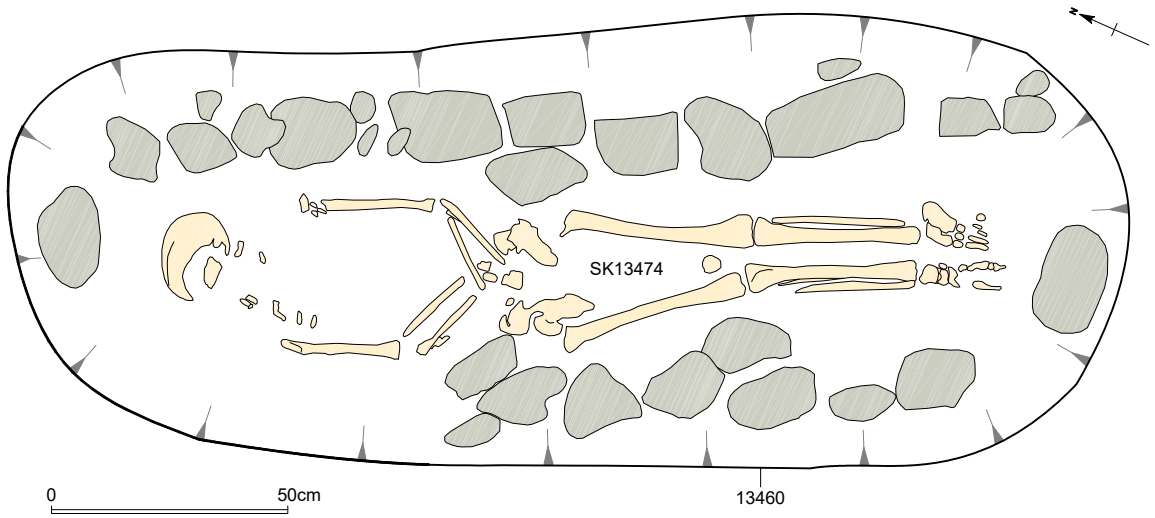


Figure 3.203: Bainesse Field 159A: plan of Grave 13460.

Table 3.253: grave catalogue for Grave 13460.

Grave cut 13460	
Orientation	SSE-NNW
Max. dimensions	L: 2.35m, W: 0.88m, D: 0.23m
Associated contexts	Grave fill 13459; rough cobble lining 13529
Skeleton 13474	
Orientation	Head to NNW
Posture	Supine; head facing right; legs extended, parallel
Arm position	Flexed at elbow, hands crossed on abdomen
Sex	Male
Age	26–35
Completeness	40%
Preservation	Very poor
Dental pathology	DEH
Pathology	Cortical defect on right navicular
Stature (mm)	1713.7±32.7
C14 date	cal AD263–276 (1.6%), cal AD329–430 (89.2%), cal AD492–529 (4.6%) (1655±29BP, SUERC-73019/GU43707)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Context 13459: RF11984 vessel glass fragment x1; pottery sherd x1 (Fabric GRB27); animal bone; magnetic matter; hammerscale
Environmental	Context 13459: charcoal: Corylus (hazel); no ID
	Context 13459: charred plant remains: *Triticum spelta* (spelt); *Triticum* sp. (wheat); *Hordeum* (hulled barley); *Triticum dicoccum* (emmer); *Carex* sp. (sedge); undet. cerealia; Poaceae undet. 2–5mm; Poaceae undet. <2 mm; undet. 2–5mm; undet. 1–2mm
Interpretative date	-

Possible Grave 13494

Although greatly disturbed by an enclosure gully, the general appearance of this feature, along with the presence of fragments of bone and its proximity to known graves, resulted in its inclusion as a possible grave.

Table 3.254: grave catalogue for possible Grave 13494.

Grave cut 13494	
Orientation	ENE-WSW
Max. dimensions	L: 1.96m, W: 0.56m, D: 0.21m
Associated contexts	Grave fill 13495
Skeleton: none	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Human bone; pottery sherds x1 (Fabric GRB16); pottery sherds x1 (Fabric GRB13); pottery sherds x1 (Fabric GRA3); pottery sherds x1 (Fabric RSA); samian sherd x1 (DR31); amphora sherd x1 (Dressel 20); fired clay; animal bone; magnetic matter; hammerscale
Environmental	-
Interpretative date	-

THE GRAVE CUTS

All the grave cuts were sub-rectangular with slightly rounded ends. Grave **13435**, the single burial located to the north-east of the plot boundary, was partly cut into a disused refuse pit. The grave was severely truncated, so that a maximum of only 0.02m of the depth was extant, with a surviving length and width of 1.90m and 0.40m. Grave **13420** measured 1.94m long, 0.86m wide, and 0.35m deep. Grave **13460** measured 2.35m long, 0.88m wide, and 0.23m deep. Possible grave **13494**, which had been much disturbed by a boundary gully, measured 1.96m long, 0.56m wide, and 0.21m deep.

Orientation

Graves **13435** and **13420** were aligned south-east to north-west, and Grave **13460** was aligned south-southeast to north-northwest. In all three, the head was to the north-western or north-northwestern end. The nearby previously excavated grave was also aligned south-east to north-west, whereas possible grave **13494** was aligned east-northeast to west-southwest.

POSTURE

All three skeletons lay supine, with their legs extended. In Grave **13435**, the only surviving elements of the arms of Skeleton 13437, a probable male aged 36–45 years, were a few bones of the right hand, which lay upon the pelvis. In Grave **13420**, the arms of Skeleton 13454, a male aged at least 46 years, were flexed with the hands crossed over the pelvis. The same arm position was recorded for Skeleton 13474, a male aged 26–35 years, in Grave **13460**.

GRAVE FURNITURE

Coffins

The burials contained no definitive evidence for nailed coffins. The backfill of Grave **13435** contained three nails of a type recorded in coffin burials in the area, which might suggest the survival of coffin elements in what was an extremely truncated burial. However, this grave was partly cut into a finds-rich refuse pit, and it is probable that many of the artefacts within this grave, including an iron hinge pivot, were in fact redeposited.

In Grave **13460**, there was a rough cobble lining, which was reminiscent of nine similar instances of cobble linings recorded within graves from Bainesse Cemetery. In the case of Grave **13460**, there was no material evidence of a coffin, although the presence of an un-nailed coffin cannot be ruled out.

Cists

Grave **13420** contained a stone slab cist, comprising a base, an upright at the head end, uprights along the south-western side, a single upright on the north-eastern side at the head end, and an irregular row of cobbles that formed the remainder of the north-eastern side. The whole was topped with capping slabs. Six worked limestone slabs were included in the cist and identified as reused armchair voussoirs, with some almost complete. These were similar to the four voussoirs that had been incorporated into the cist in Grave **237** in Bainesse Cemetery, and may have derived from the same building, which has been interpreted as a Roman bath-house.

ARTEFACTS FROM GRAVES

Skeleton **13454**, which was interred in the cist in Grave **13420**, was wearing nailed footwear that contained a minimum of 22 hobnails.

FIELD 157

Part of a rectangular enclosure thought to represent a Roman temporary camp was excavated in Field 157.

The site was situated 300m south-west of Dere Street and the associated Roman roadside settlement, with the enclosure centred at SE 2414 9652 (Fig. 3.1).

The site lay at the foot of an east-facing hillslope to the south-west of Bainesse. Geophysical survey had identified a possible rectangular ditched enclosure located within Field 157 that extended to the east into the western edge of Field 156 (*contra* Speed 2006b, 11–12; Fig. 3.204). The enclosure was covered by a considerable depth of colluvium, with the ditch cutting the lower part of the material. Subsequent accumulation had infilled and then covered the site. Due to the impossibility of defining the enclosure ditch at a higher level, up to 1m of the colluvium was removed by machine down to a level at which the ditch could be identified, inevitably truncating the upper part of the feature. Hand-excavation of the ditch showed that it was likely to form part of a Roman temporary camp.

A group of fragmented bones (Skeleton 6627) were recovered from the upper (surviving) fill of the south-eastern corner of the ditch but was only subsequently identified as human. No grave cut was identified, but it is likely that the remains represented a truncated grave cut into the ditch after it had largely or completely silted up. The bank and ditch of the camp may have been left intact or only partially slighted when decommissioned (Jones 2012, 70), so even if the ditch had fully silted, the grave may have been placed with reference to the corner of an upstanding bank. Nothing can be said about body position or other aspects of the burial, and no grave goods were found.

Radiocarbon dating of the human remains failed due to insufficient surviving collagen; as a result, the date of this burial remains unknown. Abraded Roman pottery sherds found within the ditch fill were not closely dateable. However, given the depth of silting within the ditch when the body was buried, probably at least 1.5m (allowing for the depth of even a shallow grave), the burial is likely to have been of later Roman or even post-Roman date.

DISCUSSION

The geophysical surveys and excavations in the fields to the west and north of Bainesse have provided a wealth of new information about the extensive Roman roadside settlement and its immediate hinterland, which will be discussed in detail in a subsequent volume (Ross and Ross forthcoming). Although a number of Roman burials had been discovered in back-plot areas of the settlement during previous excavations, with later Anglian burials cut into building remains (Wilson 2002a; 2002b), one of the most significant results of the new work has been the discovery of part of the large and long-lived Roman cemetery at Bainesse.

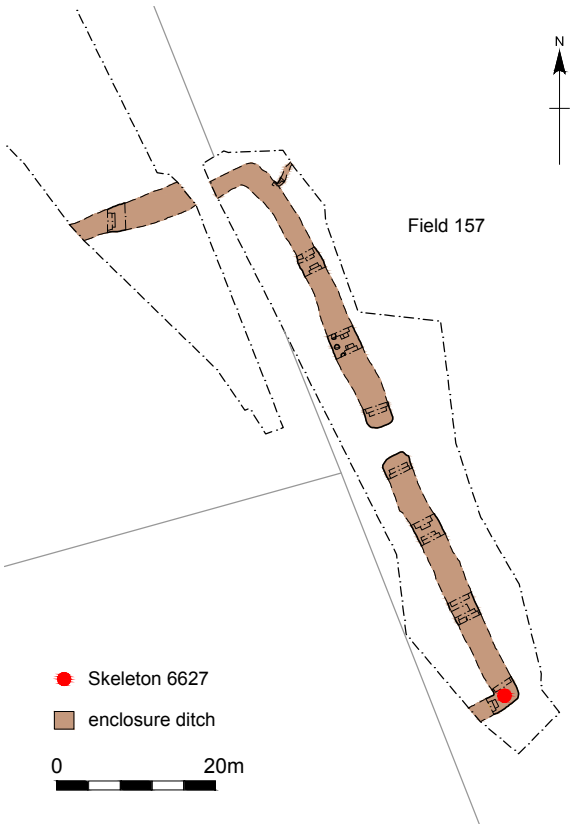


Figure 3.204: plan of enclosure in Field 157 showing location of burial.

DATING BAINESSE CEMETERY

Despite the limited number of large Roman cemetery excavations undertaken in northern England (Pearce 2013, table 1) to which the Bainesse material can be compared, there are several smaller assemblages in northern England that are available for comparison, not least the nearby burials at *Cataractonium* discussed in Chapter 4. There is a strong bias in the record towards military sites or their *vici*, notably the large cremation cemetery at Brougham (Cool 2004) and a number of smaller assemblages including those from Binchester (ASDU 2016b; 2017), Birdoswald (Cool *et al*. 2009; Wilmott 2010), Lanchester (Turner 1990), Corbridge (Casey and Hoffman 1995), High Rochester (Charlton and Mitcheson 1984), Low Borrowbridge (Lambert *et al*. 1996), Newcastle (Annis 2010) and Piercebridge (Brogan 2014). Small numbers of Roman burials have been recorded at rural sites, such as the villa at Ingleby Barwick on Teesside (Willis and Carne 2013) or the farmstead site at Catcote, near Hartlepool (Long 1988, 18).

Radiocarbon dating and Bayesian modelling

Based purely upon 'conventional' dating (dateable grave goods, mainly pottery, and stratigraphic relationships), the cemetery at Bainesse would, in the past, have been dated to the later 2nd to early 4th centuries, with a period of use of as little as 150 years. However, the radiocarbon

programme undertaken on the human remains from the site has shown that the site was used for probably at least twice as long, and the presence of the Anglo-Saxon period burial extends this even further. Where extensive radiocarbon dating has been employed within Roman burial populations elsewhere, similar extended date-ranges have been obtained (e.g. Ambrey *et al*. 2018; Hayden *et al*. 2017).

Until recently there were few radiocarbon dates available for Roman burials in northern England or indeed more widely across the Roman province, although samples from burials are now more routinely submitted and the rapidly expanding dataset is beginning to better refine some cemetery chronologies (Pearce 2013, 443). Partly because of this lack of data, the application of Bayesian modelling to investigate chronological development within individual funerary assemblages is a relatively recent development, lagging behind other areas of archaeological interest, particularly prehistory (Whittle *et al*. 2011). Nevertheless, it has been used to considerable effect at several sites, including the Roman cemetery at Horcott Quarry in Gloucestershire and the medieval cemetery of St Mary Spital, London (Hayden *et al*. 2017, 21–31; Sidell *et al*. 2007). In northern England, the technique has only been applied to small assemblages, such as the small group of Late Iron Age burials at the nearby site of Stanwick, North Yorkshire (Hamilton 2016), and the current project represents its first use on a large northern cemetery.

The extensive series of radiocarbon dates obtained from the burials within Bainesse Cemetery and their subsequent statistical modelling (excluding the late Anglo-Saxon burial) have provided several potential chronologies for the cemetery (see Hamilton, Chapter 10). The individual radiocarbon dates, calibrated using the terrestrial calibration curve, provide a sequence extending from the late 1st to possibly the 6th century AD, representing the longest potential cemetery chronology. Bayesian modelling of the 'terrestrial' dates has provided an intermediate-length chronology for the cemetery starting around cal AD80–135 (95% probability) and ending sometime around cal AD435–480 (95% probability). However, a sensitivity analysis of the data, which employed a 'Marine corrected model' that applies the marine radiocarbon calibration curve based on calculated percentage marine diet for the individuals under study (see Chapter 8), produced a rather shorter period of use for the cemetery, beginning cal AD140–210 (95% probability) and ending cal AD435–480 (95% probability). The discussion section below follows this 'short' chronology; however, as discussed by Hamilton in Chapter 10, this modelled chronology is only as good as the model employed in its creation and may be subject to future change as further data becomes available. The model is based on two significant assumptions, firstly that use of the cemetery can be regarded as an 'event' to be modelled rather than the cemetery area being an arena for a series of largely unconnected individual events/burials. Secondly, the 'Marine corrected model' assumes that the population consumed varying, but in some cases quite significant, quantities of marine foods in their diets.

Unfurnished graves

Dating of cemetery development has traditionally relied upon recognisable and dateable artefacts that have been deposited as grave goods, and as a result has rested upon the results from only a small proportion of the burials within each site. Unfurnished graves, usually undated but traditionally presumed to be broadly contemporary with nearby graves dated by grave goods, coins or stratigraphic relationships, typically make up the 'silent majority' in most Roman cemeteries, both in Britain and across the western provinces, particularly during the later Roman period. For example, in Britain these may constitute as much as 92% of the burials, as in the large Poundbury assemblage. It should therefore be remembered that furnished graves generally represented an atypical, minority funerary rite (Cooke 1998, 226–7, 272).

Most of the graves in Bainesse Cemetery contained no evidence for any burial container, such as a coffin, or any surviving grave goods. Due to the highly variable but generally poor survival of human remains, it was not possible to determine whether all of the graves had originally held bodies or whether some had been 'cenotaphs', as suggested in some cemeteries elsewhere (e.g. grave 400 at Lankhills, Winchester; Clarke 1979, 82–3).

The extensive use of radiocarbon dating for graves with suitable sample material during the current project has, as discussed below, served to give this 'silent' proportion a voice, and they have contributed considerably to understanding the development and use of Bainesse Cemetery. As noted above, the radiocarbon chronology of the cemetery is considerably longer (perhaps twice as long) as that indicated by the dateable finds assemblage alone, with few or no dateable objects from both the earliest and latest burials.

Further chronological modelling

The dating programme undertaken for the cemetery at Bainesse is unique, as it has not been common practice to use radiocarbon dating on such a scale (87 samples in this study) in Romano-British cemeteries. In addition to scientific dating, chronologically diagnostic artefacts

were recovered from 65 graves, and when this evidence was combined with the radiocarbon dates, it was possible to relatively date, through physical and stratigraphic relationships, a further 40 graves. This resulted in 192 of the 249 (232 inhumations and 17 cremations) excavated graves being dated, representing a significant proportion of the excavated cemetery. Once the dating for individual graves was established, Derek Hamilton, based at the Scottish Universities Environmental Research Centre, was commissioned to generate a Bayesian chronological model for the cemetery (see Chapter 10); this is highly unusual for Roman period cemeteries in Britain and is certainly one of the largest number of samples.

Smith *et al*. (2018a), in the Roman Rural Settlement Project's analysis of Roman rural burial practices, utilised a very large dataset and have rather succinctly commented on some of the issues for chronological analysis of Roman period burials. They state that any analysis of change in burial customs over time is hindered by the poor chronological resolution of many burials. Radiocarbon dating has only been applied to 13% of all burial records included in their dataset, and where radiocarbon dating has been undertaken, it has often targeted a small proportion of the total number of burials at a site (see also Lankhills, where only 10 of 683 graves were radiocarbon dated; Booth *et al*. 2010, 448). As a result, most Roman period burials are dated via associated grave goods, mostly using ceramics, but also items, such as coins and brooches, all of which have varying degrees of chronological resolution. However, datable artefacts are generally only present in a relatively small number of graves, which are then used to date all the graves in a group or cemetery, thus restricting overall chronologies. Due to these problems, and the issue that some cemeteries do not have clear internal phases of activity and/or no explicit chronological sub-divisions, the data considered by Smith *et al*. (2018a, 208–9 and table 6.1) has been assigned to broad chronological groups. All of the issues discussed by Smith *et al*. (2018a) are particularly relevant for Bainesse Cemetery.

The chronological evidence for Bainesse Cemetery, both in terms of artefacts and radiocarbon dates, is extensive; however, it was immediately apparent that the relatively broad and overlapping date ranges for many graves made it difficult to identify distinct chronological phases of activity, or to quantify the number of burials in any given period (e.g. 1st, 2nd, 3rd century AD). While the Bayesian model refined the dates of many graves and provides an excellent overview of the dating of the cemetery, it was difficult to identify chronological sub-divisions, especially during what appears to be the main period of activity, namely between the 2nd and 4th centuries AD. Yet, it was important to attempt to identify periods of increased/decreased activity throughout the entire use of the cemetery, with the aim that these may directly relate to episodes of expansion and contraction within the nearby settlements of Bainesse, Healam Bridge and *Cataractonium*. The methodology developed and applied here allows consideration of periods of activity based on a relatively large and robust dataset, which in turn may be used for comparison with other Romano-British cemeteries.

Method

In addition to Bayesian modelling, it was apparent that a second approach was needed to attempt to refine chronological resolution and with the specific aim of identifying distinct periods of activity at the site. Therefore, an attempt was made to assess the date distributions for funerary activity within the cemetery. While there are many published Romano-British cemeteries where chronological phases have been established, other approaches generally grouped burials into rather broad date ranges (e.g. 1st century BC to early 2nd century AD, mid-1st century AD to later 2nd century AD etc.). Many published date ranges overlap where the decision of 'when' to place your 'count' of a burial is subjective, even if well informed. Therefore, the method adopted here attempts to use evidence from all dated graves, with their entire chronological ranges considered in an objective manner. In the case of Bainesse Cemetery, any attempt to group burials into specific date ranges would not accurately reflect the uncertainties of broader date ranges suggested by radiocarbon and relative dating. As a result, dating resolution would be lost, especially for the late Iron Age to early Roman and the post-Roman periods, and the intensity of activity between the 2nd and 4th centuries AD.

The method applied attempts to sum all dates from both radiocarbon and artefactual sources. This approach is not entirely new and is, in essence, very similar to the summing of calibrated radiocarbon dates (for a brief overview see Baxter and Cool 2016, 10; also, Williams 2012 for a review of the method), although it has been adapted here to suit the research questions asked and the scale of resolution required. It utilises the interpretative date ranges as provided in the catalogues for each of the graves at Bainesse Cemetery, which have been derived from a combination of modelled radiocarbon dates (see Hamilton, Chapter 10), stratigraphic information and artefactual evidence.

In essence, the methodology considers each grave as a single unit with a numerical value of 1. The date range for each grave is then divided into equal blocks of time based on the resolution that the data is required to be interrogated at; for instance, five-, 20- or 50-year intervals.

As an example, a grave with a date range of AD100 to 320 is equal to a span of 220 years and can be divided into 44 five-year intervals. Therefore, the value assigned to each interval that the date range of the grave covers is 0.0227 (=1/44). Likewise, a grave with a date range of AD100 to 250 provides a value of 0.0333 (=1/30) for each five-year interval that it falls into. This method is applied to all dated graves and the values are totalled accordingly for each interval, based on the number of individual graves that fall into each time slice (see Fig. 3.205). The results can then be presented as a bar chart to aid clarity (e.g. Fig. 3.206).

This methodology was applied to the graves from Bainesse Cemetery and considers use of the cemetery between AD1 to 500. The method was applied at different chronological resolutions based on differing interval lengths (both five-year and 50-year intervals). The bar charts produced provide evidence for hypothetical chronologically sensitive densities of activity within the cemetery throughout its entire history.

This chronological study is by no means a critique of those dating strategies applied to other Romano-British cemeteries but is intended as a method of dealing with large numbers of dated graves in a meaningful and robust manner, one which may be tested in the future as more cemeteries are extensively dated. The method also allows for previously dated cemeteries to be compared robustly with Bainesse Cemetery without the need for complex analysis, so long as entire date ranges, whether resulting from direct or relative sources, are considered.

While this method is theoretical, it is more statistically robust than the approach of grouping dated and undated graves into relatively neat chronological periods based on subjective, if informed, opinions. While not an attempt at a mathematically robust statistical analysis, it has been developed to provide a hypothetical 'general phasing' based on simple numerical modelling. However, the method has the potential to be used beyond the phasing of Bainesse Cemetery and warrants further development and research to explore its accuracy and scope.

5-year interval					
From	To	Total	Grave 1	Grave 2	Grave 3
101	105	0.0560	0.0227	0.0333	
106	110	0.0560	0.0227	0.0333	
111	115	0.0560	0.0227	0.0333	
116	120	0.0560	0.0227	0.0333	
121	125	0.0560	0.0227	0.0333	
126	130	0.0560	0.0227	0.0333	
131	135	0.0560	0.0227	0.0333	
136	140	0.0560	0.0227	0.0333	
141	145	0.0560	0.0227	0.0333	
146	150	0.0560	0.0227	0.0333	
151	155	0.0560	0.0227	0.0333	
156	160	0.0560	0.0227	0.0333	
161	165	0.0560	0.0227	0.0333	
166	170	0.0560	0.0227	0.0333	
171	175	0.0560	0.0227	0.0333	
176	180	0.0560	0.0227	0.0333	
181	185	0.0945	0.0227	0.0333	0.0385
186	190	0.0945	0.0227	0.0333	0.0385
191	195	0.0945	0.0227	0.0333	0.0385
196	200	0.0945	0.0227	0.0333	0.0385
201	205	0.0945	0.0227	0.0333	0.0385
206	210	0.0945	0.0227	0.0333	0.0385
211	215	0.0945	0.0227	0.0333	0.0385
216	220	0.0945	0.0227	0.0333	0.0385
221	225	0.0945	0.0227	0.0333	0.0385
226	230	0.0945	0.0227	0.0333	0.0385
231	235	0.0945	0.0227	0.0333	0.0385
236	240	0.0945	0.0227	0.0333	0.0385
241	245	0.0945	0.0227	0.0333	0.0385
246	250	0.0945	0.0227	0.0333	0.0385
251	255	0.0612	0.0227		0.0385
256	260	0.0612	0.0227		0.0385
261	265	0.0612	0.0227		0.0385
266	270	0.0612	0.0227		0.0385
271	275	0.0612	0.0227		0.0385
276	280	0.0612	0.0227		0.0385
281	285	0.0612	0.0227		0.0385
286	290	0.0612	0.0227		0.0385
291	295	0.0612	0.0227		0.0385
296	300	0.0612	0.0227		0.0385
301	305	0.0612	0.0227		0.0385
306	310	0.0612	0.0227		0.0385
311	315	0.0227	0.0227		
316	320	0.0227	0.0227		

Figure 3.205: example of summed date methodology. Values assigned to intervals are distributed for each grave's date range. The total for each interval is calculated by summing the values for all graves that fall within it, with the higher values representative of potentially increased activity within the site.

The beginning of the cemetery

Initial assessment of the pottery assemblages from the enclosure complexes to the north, south and west of the cemetery suggests that these had largely become disused by the early 2nd century before burials began, although some later agricultural and ironworking activity was recorded in Field 160. In addition, the composition of these assemblages was entirely different to the assemblage of vessels recovered from funerary contexts within the cemetery. The apparent disuse of the enclosure complex during the Antonine period broadly coincides with a substantial change to stone buildings at Bainesse on the eastern side of Dere Street, and the first evidence of settlement bordering the road on its western side (Wilson 2002a, 146–55, phases 4–5), suggesting a change of geographic settlement focus towards the roadside area.

Despite the changing settlement morphology, no occupation-related features were found within the cemetery area. This raises the question of what archaeologically invisible use the space subsequently occupied by the cemetery was being put to during the

late 1st and early 2nd centuries, such that the enclosures avoided it. It would seem strange for agricultural land to be surrounded by enclosures forming part of the settlement. Given the wealth of Roman non-funerary features found in the adjacent areas, the cemetery site was clearly a reserved space from the outset of the settlement, and perhaps ritually set apart (cf. Esmonde Cleary 2000, 136–7). However, without further investigation across the wide area between the excavated portion of the cemetery and the roadside settlement adjacent to Dere Street, this question cannot currently be resolved. If the whole area was earmarked as a cemetery from the outset of the Bainesse settlement then the earliest (late 1st to 2nd century) graves might be expected to be found nearer the roadside settlement to the east, with burials only subsequently spreading to the more distant part of the area to the west where the excavation took place.

Development of the cemetery

Following the methodology described above, plots were prepared using those graves that had <200yr, <150yr and <100yr interpretative date ranges, using sample sizes of 127, 77 and 23 graves respectively (Fig. 3.206). Graves with interpretative date ranges greater than 200 years were excluded. The plots each show generally similar distributions through time despite the reducing sample size used in each successive graph, indicating the generally robust nature of the data. However, the reduction in sample size also served to accentuate subtle differences in the dataset. For instance, the short-modelled radiocarbon date ranges for many of the 5th-century burials has served to over-emphasise their contribution to the data, particularly on the 100yr plot where they make up a disproportionately large percentage of the data employed, and hence create a prominent late peak in the graph.

In general, the data presented in the three plots shows a steady increase in use of the cemetery from the early 2nd century through to the end of the 3rd century. There was then a slight (150yr plot) or steep (100yr plot) decline in use of the area during the early 4th century, followed by a resumption of burials in the later 4th and early 5th century, with use of the cemetery ending in the mid- to late 5th century. However, it should be noted that any chronological patterning is limited by the fact that the excavation represents only a sample of the whole cemetery.

SPATIAL MODELLING

Several models were tested in order to disentangle the spatial development of the cemetery, with some, albeit limited, success. Plotting of inhumations with modelled date ranges lying between AD80 and no later than AD250 (Graves **6**, **11**, **36**, **79**, **89**, **161**, **172** and **221**)

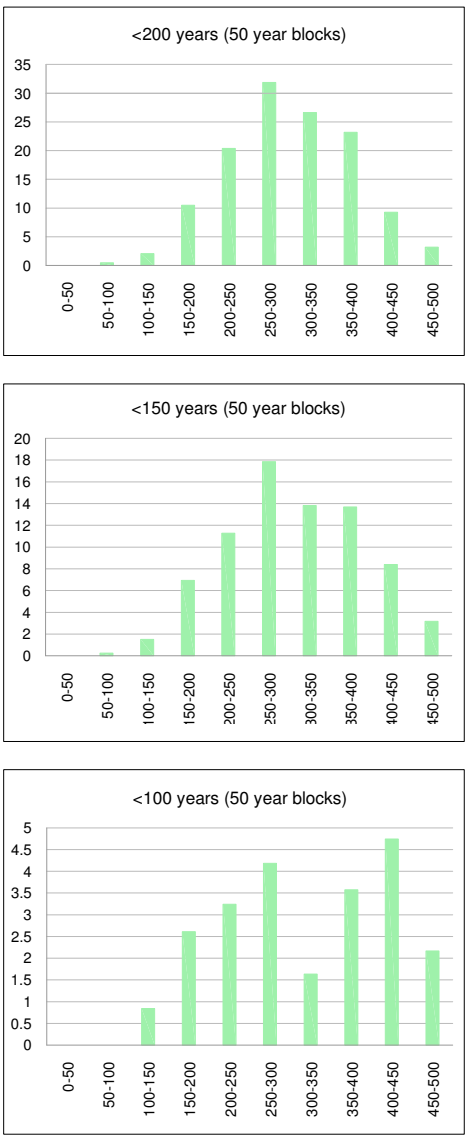


Figure 3.206: Bainesse Cemetery: frequency of dated burials through time.

suggested that, initially, interments were occurring in a narrow linear band aligned parallel but not immediately adjacent to the western cemetery boundary (Fig. 3.207). The un-modelled radiocarbon data suggested that the earliest graves may have been located in the northern half of this zone.

From the mid-3rd to at least the mid-4th centuries, which encompasses much of the cemetery's use, burials appear to have been taking place across the whole area in an unregulated manner. As previously noted, there was no evidence for a 'common' grave orientation, although some burials respected the alignment of nearby non-grave features, such as the ring ditch and the enclosure to the west of the cemetery. This contrasts with the situation in many other cemeteries, such as Binchester, where all but one of the 33 burials excavated in 2016–17 were aligned from north-west to south-east (ASDU 2016b; 2017).

Despite the apparently unregulated use of the cemetery

space, many of the burials were concentrated in specific parts of the area, notably a dense cluster of intercutting burials at the western edge of the cemetery. These lay opposite the entrance to the earlier enclosure, although the placement could have been coincidental. There was no obvious focus for these burials (unless it was the entrance itself), but the extent of intercutting suggested that there was some constraint, such as a bounded family plot. Similarly, dense clusters of intercutting burials have been noted in cemeteries elsewhere, for example in the Lankhills cemetery, Winchester, and the Eastern Cemetery in London (Conheeney 2000; Booth *et al*. 2010, 30–3). Another dense group of burials lay immediately to the north-west of the ring ditch, and again these had the appearance of having been bounded, with relatively empty space beyond. Graves **141**–**146** at the eastern side of the area were also concentrated in a tight, intercutting cluster, despite adjacent empty areas.

Some groups of graves appear to have been laid out in short, planned rows or strings that shared a similar orientation, although this was at odds with the orientation of other nearby graves. Examples of this behaviour included Graves **123**, **132**, **133** and **152**, which were found in parallel, although the orientation of the bodies varied, and Graves **111**, **112** and **115**–**117**. Graves **45**, **46**, **51**, **67**, **68**, **73**–**75** and **92**, which were located towards the north-eastern edge of the excavated area, appeared to have been laid out head-to-toe in two parallel strings. Unfortunately, where this behaviour was observed, there were too few radiocarbon dates or chronologically diagnostic finds to explore the development of such groupings. The limited size of these more ordered parts of the cemetery again suggested small family plots rather than any wider regulated regime.

From the mid-4th century, the northern part of the excavated area seems to have been largely abandoned, with burials concentrated within the southern half of the area (Fig. 3.208). The later dated graves were concentrated in a relatively small area to the west of the ring ditch (and any mound or monument which it may have encircled), with several laid out parallel to the western boundary.

Cremation vs inhumation

There is a 'traditional' view that the predominant burial rite in the early Roman period in Britain (particularly the south-east) was that of cremation, which was gradually replaced by inhumation (Philpott 1991, 8). However, it is becoming increasingly clear that the pattern is far more complex, both geographically and through time (Smith *et al*. 2018a). At Bainesse Cemetery, inhumation appears to have been the majority rite throughout the use of the excavated part of cemetery. Bayesian modelling of radiocarbon dates from the cremation burials suggests a

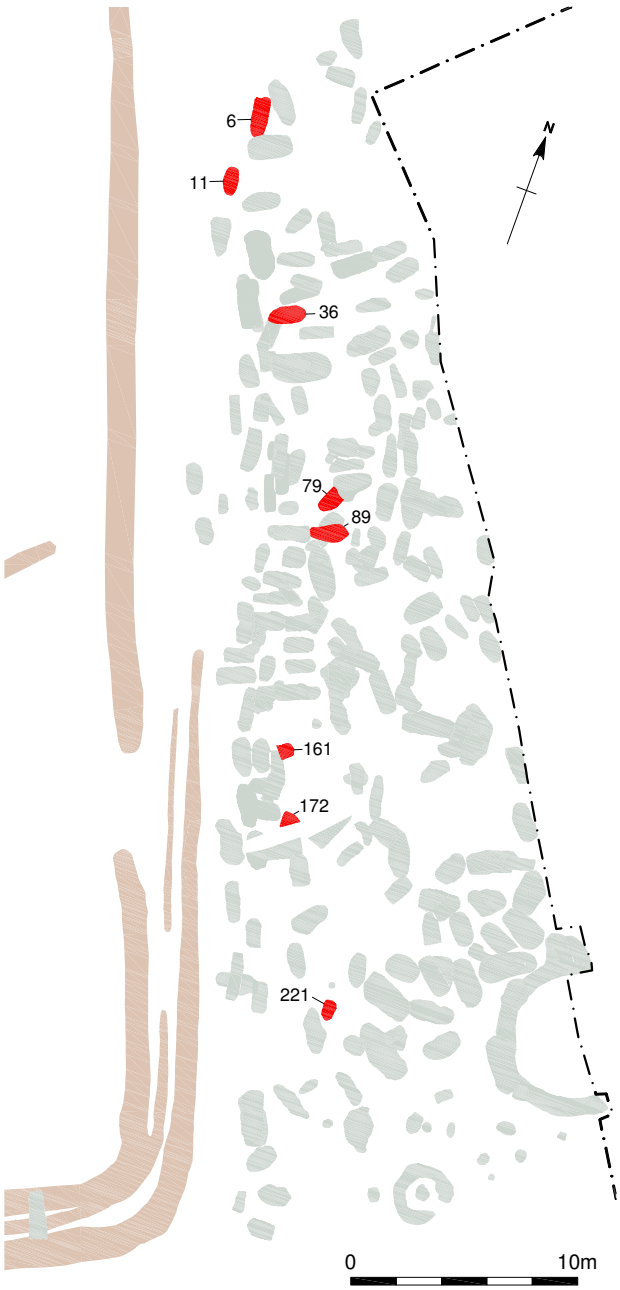


Figure 3.207: Bainesse Cemetery: graves with early modelled dates.

rather broad date range for this minority rite (Hamilton, Chapter 10); however, where pottery vessels were present in such burials, they suggested a fairly short 'episode' that was limited to between the early to mid-3rd century, perhaps reflected in their limited geographic distribution within the cemetery (see Chapter 7 and discussion of residual cremated remains below).

The ring ditch and its role in the cemetery

Many of the burials within the south-eastern part of the excavated area were clustered around, and apparently respected, a circular area demarcated by the ring ditch. The ditch itself was clearly a secondary feature, which cut a sequence of inhumations that already respected

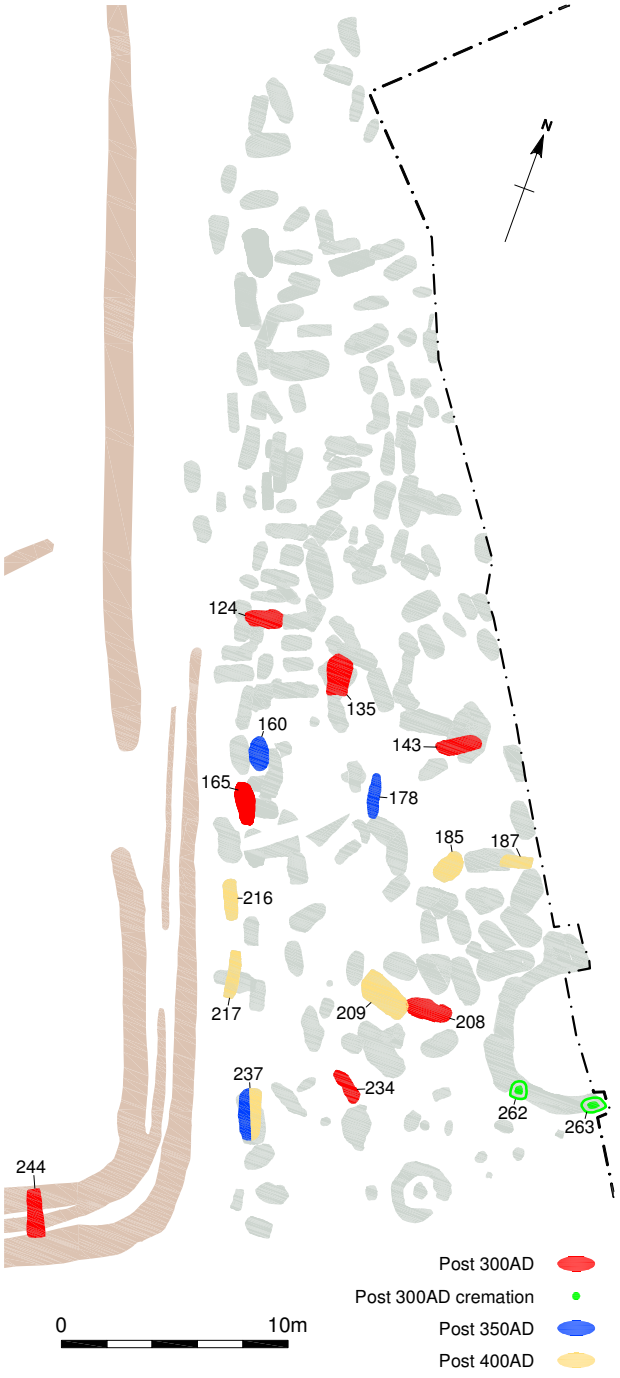


Figure 3.208: Bainesse Cemetery: late graves, showing burials with modelled date ranges starting post AD300, post AD350 and post AD400.

the circular space. Presumably this space was initially demarcated above ground in some way, possibly by a mound or structure, such a mausoleum, which was subsequently reemphasised by excavation of the ditch. Circular mausolea are known from Roman Britain, and examples are known in northern England, such as that at High Rochester (Charlton and Mitcheson 1984, plate 1a). In the Pepper Hill cemetery at Northfleet, Kent, a ring of 1st- to 2nd-century cremation burials was identified that apparently surrounded two inhumation graves (Biddulph 2006b, 51). However, no burial was found within the excavated portion of the interior of the ring ditch at Bainesse. However, any primary burial may have been located immediately beyond the limit of excavation. Alternatively, if there was originally a central mound, the burial could have lain on the ancient ground surface, in a shallow grave, as seen below the mounds at Petty Knowes (Charlton and Mitcheson 1984) or interred into the top of the mound (Aarts and Heeren 2017, 136). In any of these cases the burial would have been removed by subsequent agricultural activity.

The burial(s) of probable late 1st- to mid-2nd-century date previously excavated at the Cowstand Farm site within the south-eastern edge of Field 163 may have been enclosed by a curving and possibly segmented ditch (Taylor-Wilson 2001, 9–13). The curving form of the ditch was at odds with the overwhelmingly linear form and regular orientation of other Roman boundary ditches observed both to the south and south-east. The observed, slightly irregular arc of the ditch had a radius of approximately 7.0–7.5m, which was considerably larger than the ring ditch recorded in Bainesse Cemetery (3.6m radius). Nevertheless, it could represent a funerary enclosure forming part of the wider cemetery. The geophysical survey results for the unexcavated part of Field 163 included several anomalies that could represent additional small circular enclosures, although further excavation would be required to determine whether they are funerary in nature, or even Roman in date.

Whatever the nature of the primary use of the area enclosed by the ring ditch, it had a significant and long-lasting impact upon the subsequent development of the cemetery. The three earliest graves cut by the ring ditch were those of children (Grave **199**, a child aged 3–4 years; Grave **201**, a child aged 3 years; and Grave **229**, which contained a neonate plus a 13–14-year-old, perhaps suggesting some familial relationship, such as siblings, although the neonate bones were disarticulated and possibly residual. However, subsequent burials were of adults (Graves **198** and **197**). That the central focus of these features had been present for a considerable period prior to excavation of the ring ditch was emphasised by the sequence of burials (Graves **198**, **197** and **200**) that had already cut Grave **199** prior to the ring ditch having been cut. After the ditch had become infilled, cremation burials (Graves **262** and **263**) were inserted over the line of the ditch, but presumably still respected whatever lay in its centre, with other cremation burials concentrated nearby. In the late 4th and 5th centuries, inhumations were mainly concentrated in the area to the west of the ring ditch, which appears to have acquired an increasing role as the main focus for burial in the cemetery.

GRAVE STRUCTURE

For inhumations, there was no evidence for change in the form of the grave cut through time; indeed, the shape of graves varied considerably from neatly-cut rectangular and oval pits to much more amorphous features throughout the use of the cemetery. None of the grave-pits showed any evidence for elaboration, such as the 'stepped' graves seen at Lankhills, Winchester (Powell 2010b, 330).

Coffins

Within Bainesse Cemetery, at least 49 of the 232 inhumations (21%) contained evidence for nailed coffins (see Chapter 8), which were employed throughout most, if not all, of the cemetery's use (Hamilton, Chapter 10). Although coffins were found along the western edge and southern end of the excavated part of the cemetery, they were largely absent across the north-eastern part (Fig. 3.209). The presence of coffin nails in a few graves in this area suggested that this distribution was real rather than a result of taphonomic processes.

Wooden coffins were common (but by no means universal) in Roman cemeteries. In the late Roman cemetery at Lankhills, Winchester, 88% of the excavated graves contained coffins (Powell 2010b, 330). However, the figure for Bainesse Cemetery may well be an underestimate, since coffins could be constructed without nails. Under some circumstances, such coffins can be detected via soil stains left by the decaying wood, although this phenomenon was not noted at Bainesse. The archaeothanatology of the skeletal remains can also indicate the former presence of an un-nailed coffin (Pearce 2013, 459–61). A nearby example of this was a grave at the Thomas Armstrong Block Factory at *Cataractonium*, where the head of a decapitated individual, originally placed over the ankles of the deceased, had subsequently had space to roll off along the legs of the skeleton and end up alongside the knees, leaving a trail of detached vertebrae in its wake (Speed 2004, 16 and plate 9). Other than this evidence for a void around the corpse there was no other indication of the presence of a coffin, such as nails. Conversely, evidence has been recovered in Britain for reuse of timber (potentially including metal nails and other fittings) in coffins, as for example at Atlantic House, London (Watson 2003, 60–3), which may explain the presence of burials where only very small numbers of nails have been found.

As noted above, five of the graves at Bainesse Cemetery containing nailed coffins were also lined with cobbles to varying extents. An additional four graves in the cemetery, together with Grave **13460** in Field 159, also contained a rough cobble lining but no evidence for a nailed coffin. It is possible that these graves may have contained un-nailed coffins of which no physical remains survived.

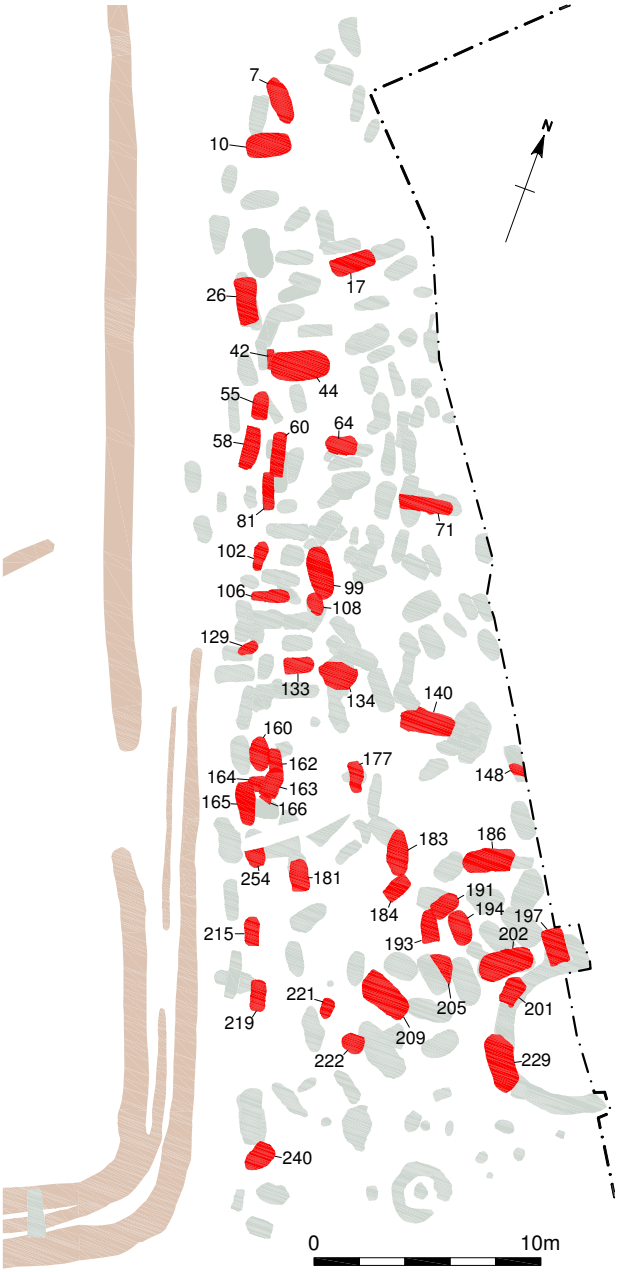


Figure 3.209: Bainesse Cemetery: graves containing evidence for nailed coffins.

Cists

Nine of the graves in Bainesse Cemetery, together with Grave **13460** in Field 159A, contained partial cobble linings (Fig. 3.210). In five graves the cobbles surrounded a nailed coffin, and it is possible that un-nailed coffins may once have been present in the remaining four examples. Most of these cobble-lined graves lay in a group at the western side of the ring ditch, suggesting that this was a practice used by a restricted part of the population, at least in this cemetery, and had begun relatively early in the cemetery sequence, since some of these graves were subsequently cut by the ring ditch.

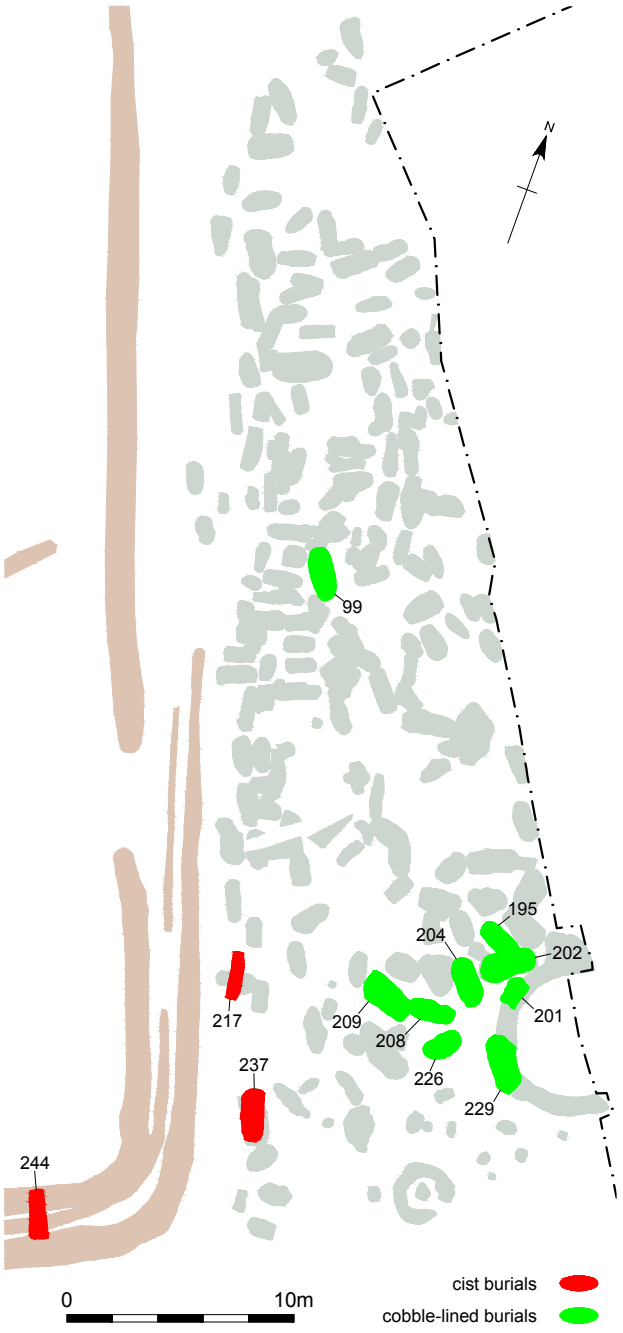


Figure 3.210: Bainesse Cemetery: graves with cobble linings and cists.

However, similar partial lining of graves has been seen more widely in burials at Bainesse and *Cataractonium*, which continued into the late Roman and early medieval periods. This is discussed further in Chapter 11.

In contrast, the near complete enclosure of the burial in a cist constructed from stone slabs only occurred during the late 4th and 5th century (Hamilton, Chapter 10), as represented by Graves **217**, **237** and **244** (Fig. 3.210), and Grave **13420** in Field 159A. This reflects a more widespread increase in the use of this type of burial at this time (Philpott 1991, 62). In Bainesse Cemetery, there was a strong correlation between cists and minority burial customs. Both of the decapitated individuals (Graves **217** and **244**) and one of the two prone burials (Grave **237**; Fig. 3.211) lay within the three cists, suggesting that the practice of cist burial was reserved for unusual later graves. It is possible that use of a cist stemmed from the same beliefs as decapitation and prone burial, and Taylor (2008, 110) has included evidence for 'unusually secure' graves in her discussion of deviant burials. There is other evidence that the use of cists may be more complex than simply supplying additional protection around the deceased. At Lanchester, County Durham, in a cemetery associated with the Roman fort and *vicus* and broadly dated to the 2nd–3rd centuries by associated pottery, the excavated burials, which mostly consisted of cremations, also included six cists ranging in length from 0.45–0.88m that presumably represented child burials (Turner 1990, 74).

Roofing slabs in cists

The incorporation of similar limestone 'armchair voussoirs' within the cists in Grave **237** in Bainesse Cemetery and Grave **13420** in Field 159A is also of considerable interest. Use of roofing materials is quite common in Roman cist burials, for instance in northern England at Wetherby, West Yorkshire and York, and nearby at Brompton West (Kent 1934, 171–5; RCHME 1962, plate 28; see also Chapter 4), and in many cases this practice is likely to have been opportunistic as such materials became available. However, the voussoirs are unusual and would have originally been used in barrel vaults, typically within a bathhouse, although no such building has yet been identified at Bainesse. As such structures require a plentiful water supply, the most likely location for any such structure would be within the area where Dere Street crossed Brough Beck to the north-east of Bainesse Cemetery, where to date there has been no investigation. As discussed in Chapter 8, fragments of voissoirs have previously been found at *Cataractonium*, presumably derived from the bathhouse excavated in 1959. It is possible that the voussoirs from Bainesse originated from the same building, but for this to have occurred would have required someone to have acquired them from the walled town, a different settlement located some 2km to the north. Given that large, flat, dressed stone slabs have always been at a premium, it seems unlikely that, following the collapse of such a structure, the voussoirs would have remained available for a long time, suggesting that these two burials may have been broadly contemporary, if the voussoirs were associated to the same building.

Intercutting burials and grave marking

Grave markers

Apart from the penannular gully around cremation Grave **273**, and possibly the larger ring ditch, there was no definitive evidence for grave markers within

Figure 3.211: Bainesse Cemetery: prone skeleton in cist 13085 in Grave 237, showing reused armchair voussoirs at the head and feet.

the cemetery. The extent of intercutting of graves argues against any extensive use of permanent markers, such as stone monuments, although the small number of instances of potentially re-opened graves suggests that some temporary markers were employed, possibly including wooden posts.

Two features noted above as conceivably representing pits for the placement of grave markers (pits **12459** and **12707**; Fig. 3.4) could equally have been dug to deposit post-funerary offerings, have had no connection with funerary activity, or been entirely natural in origin. The evidence for above-ground marking of burials is discussed further in Chapter 11.

Deliberate recutting: 'stacked' burials

Given that there were no obvious spatial constraints to the placing of individual burials within the cemetery area, the presence of four 'stacked' (also known as 'double-decker') burials within a small area is significant (Fig. 3.212). Such graves are defined as where a grave has apparently been re-opened at a later date for the insertion of a second body directly above the primary interment. The four pairs of 'stacked' graves at Bainesse were (modelled dates in parentheses): Grave **15** (*cal AD255–395*) above Grave **16** (*cal AD180–360*); Grave **56** (undated) above Grave **57** (*cal AD260–435*), Grave **78** (*cal AD240–390*) above Grave **77** (*cal AD150–265*); and Grave **87** (*cal AD185–380*) above Grave **86** (*cal AD150–255*). The dates span the late 2nd to 4th centuries, suggesting that this practice could have had a long

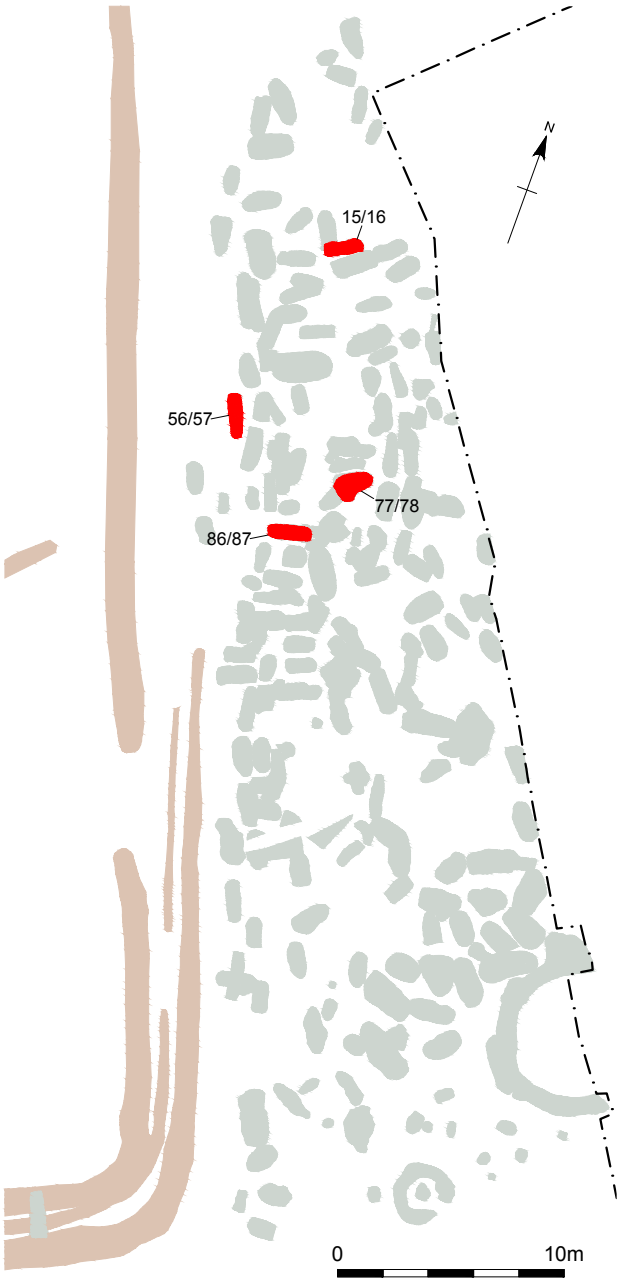


Figure 3.212: Bainesse Cemetery: 'double-decker' or 'stacked' burials.

currency within the cemetery, although it had ceased before the end of the 4th century and is not represented in the latest group of burials in the cemetery.

Such burials are not uncommon (e.g. burials 69/175 and perhaps 6/7 at Trentholme Drive, York; Wenham 1968, 36 and 38) and are by no means restricted to the Roman period, having been recorded in North Yorkshire during the Late Iron Age at Gargrave and in the early medieval period at Hollow Banks Farm, Scorton (McCluskey and Martin 2004, 5; Speed 2002). Indeed, this tradition continues to the present day. However, to date there are no other recorded examples of Roman 'double-decker' burials from the Catterick area.

As well as this tradition being restricted to Bainesse

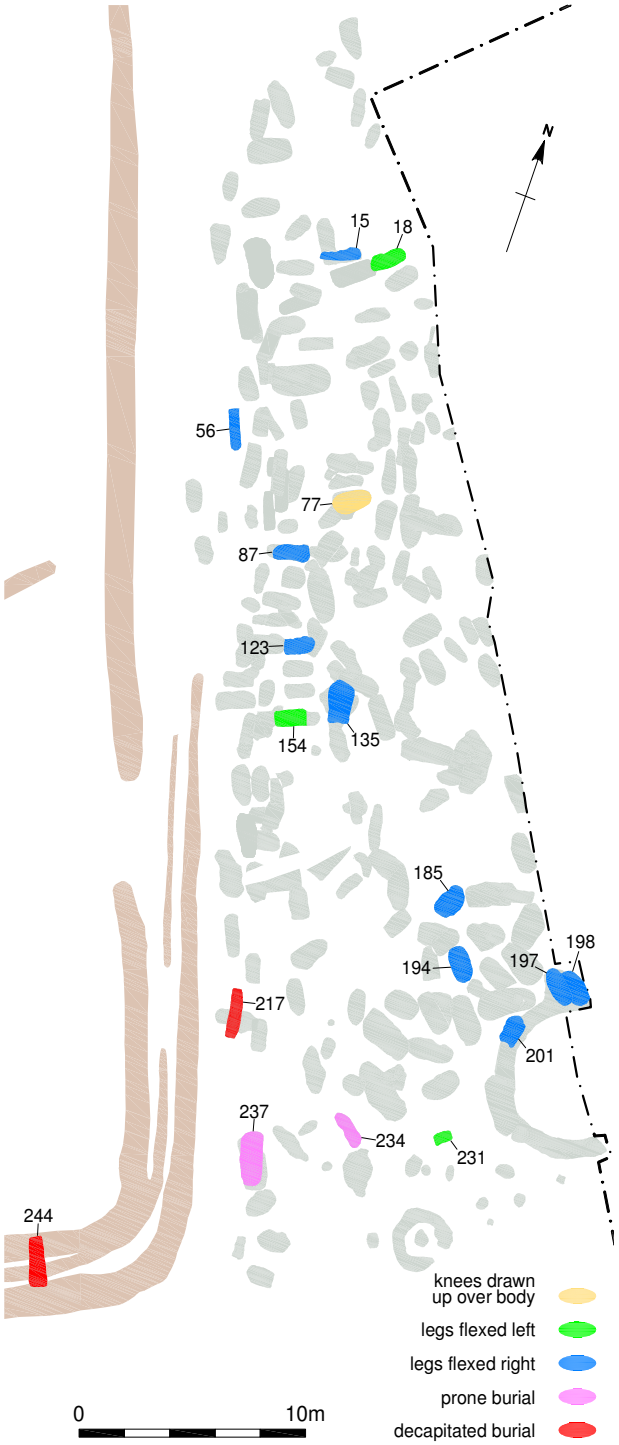


Figure 3.213: Bainesse Cemetery: burials displaying evidence for minority or alternative burial customs.

Cemetery, the four 'double-decker' graves all lay close to each other within the northern part of the excavated area, suggesting that this part of the cemetery was in use by a limited section of Roman society who considered this practice to be normal where perhaps others did not. It seems likely that the occupants of these burials had a connection in life, possibly familial, although the range of dates suggests that different generations could have been represented.

SKELETAL POSITION

As noted above, where body position could be determined, the majority of the skeletons in the inhumations lay in an extended supine position, normally with the legs extended but with one or both arms flexed and overlying the upper body in a variety of positions. The poor preservation of the human remains meant that no patterning in terms of the position of the body in these burials could be determined. All three of the inhumations in Field 159A probably had their hands lying over the pelvis. Unfortunately, arm position in many of the burials previously excavated at *Cataractonium* and Bainesse was not presented by Thompson (2002) and is not illustrated for most burials (Wilson 2002a).

Alternative and unusual inhumations

A small number of burials at Bainesse lay in more extreme postures. Smith *et al*. (2018a, 226–231) have considered the presence of prone, decapitated and flexed inhumations across Roman Britain as 'alternative' rites to the more typical extended supine inhumation posture.

Flexed burials

A total of 13 burials within Bainesse Cemetery exhibited varying levels of flexure with the upper legs positioned at an angle to the torso. Of these burials, three either lay on their left side or had their legs flexed to the left (Grave **18**, **154** and **231**), and 10 to the right (Fig 3.213). Another burial (Grave **77**) had its knees drawn up, but on the axis of the body. It was noted that those individuals flexed to the left appeared as a group to have individual, unmodelled radiocarbon dates that were earlier than those flexed to the right. Bayesian modelling of this data suggests a scenario where burial on the left side changed to burial on the right side during the period of use of the cemetery (see Hamilton, Chapter 10).

Iron Age burials in Yorkshire, and tentatively at Stanwick, show a preference for being laid on their left sides, although the opposite also occurs (Haselgrove 2016, 440–1), and Philpott (1991, 7) has noted that Middle Iron Age 'Arras' burials in East Yorkshire were consistently placed on their right side. At Micklefield, West Yorkshire, seven of eight flexed burials were placed on their left-hand sides (Brown *et al*. 2007, 102). The statistically early rite of occasional flexed burial on the left side at Bainesse may, therefore, represent continuation of a local Late Iron Age tradition. The flexed rite continued to be common in the early Roman period in some areas, including Yorkshire, but gradually declined with time (Smith *et al*. 2018a, 230–1), although it remained present into the post-Roman period (Roberts 2005b, 217). In West Yorkshire, three crouched burials at Parlington Hollins of probable later Roman or post-Roman date, and three post-Roman burials found during excavations near Ferrybridge Henge, were all

buried on their right sides (Holbrey and Burgess 2001, 95–7; Martin 2005, 121; Richardson 2005, 87). The two latest 'Roman' graves from Bainesse Cemetery (based on unmodelled calibrated radiocarbon date-ranges), Grave **185** (cal AD430–607; 1518±25BP, SUERC-73004) and Grave **187** (cal AD429–630; 1510±32BP, SUERC-67692) also contained skeletons flexed to the right. Both flexed burials at Catterick Bridge (CfA Site 240, graves 83 and 151; Thompson 2002, 387–8), which were of later 4th- to early 5th-century date, lay on their right, as did a 3rd-century burial in the roadside settlement at Bainesse (grave 259; Thompson 2002, 386); however, a second crouched burial at Bainesse, dated to the later 3rd or early 4th century, lay on its left side (grave 1730; Thompson 2002, 387). Although flexed inhumation continued from the Iron Age through to the post-Roman period in northern England, it is possible that its meaning and execution (from primarily left to primarily right-side flexure) changed over time. This is clearly an area for future research.

Prone burials

The cemetery included two certain prone interments (Graves **234** and **237**; Fig. 3.213). Prone burials have been recorded within several Roman cemeteries in Britain. They can, in all other aspects of grave form and furnishing, resemble the surrounding burials (Philpott 1991, 72–4; Smith *et al*. 2018a, 230), although in some cases the practice is suggested to have reflected disrespect, exclusion and even punishment (Taylor 2008, 107–10; Smith *et al*. 2018a, 229–30). Given the varying treatment of prone burials, it seems likely that there were a range of reasons for this rite.

Prone burials occurred in Britain throughout the Roman period, although they appear to have become more common during the 4th century (Philpott 1991, 71), and had a wide geographic distribution (Smith *et al*. 2018a, figs. 6.16 and 6.18). Only small numbers of such burials have been recorded in northern England (*ibid*.), although eight such burials were recorded in the cemetery at Trentholme Drive, York (Philpott 1991, appendix A23). None have previously been recorded at *Cataractonium* or Bainesse, although examples were also found during the recent A1 scheme excavations at Brompton West (Chapter 4) and Low Street (Chapter 5).

Decapitation

Two of the individuals in Bainesse Cemetery had been decapitated prior to being placed in the grave (Graves **217** and **244**; Fig. 3.213). As with prone burial, the purpose of decapitation of the corpse also remains unknown, although again a wide range of explanations have been suggested (for discussion see Philpott 1991, 83–9; Taylor 2008, 95–9; Smith *et al*. 2018a, 227–9). Other than removal of the head, there is typically no difference between these graves and others in the same cemeteries in either form, furnishing or apparent respect for the dead, both in Britain or across the western provinces (Cooke 1998, 250; Taylor 2008, 102).

Although examples are known from throughout the Roman period, its frequency amongst inhumations increases in the later Roman period (Smith *et al*. 2018a, fig. 6.18) and continued into the early post-Roman period as seen at Parlington Hollins, West Yorkshire (Holbrey and Burgess 2001, 102), and Bainesse (Grave **217**). The practice has mainly been recorded across the central belt of England, with some instances to the north and west (Philpott 1991, 78; Smith *et al*. 2018a, fig. 6.16). Although several examples have been found in York (Hunter-Mann 2006), the decapitated burials found at Bainesse, together with an example found at the Thomas Armstrong Block Factory in Brompton (Speed 2004, 16), are some of the most northerly to have been excavated in Roman Britain. The Roman Rural Settlement Project only recorded a single example of this practice further to the north at Ingleby Barwick (Allen *et al*. 2015). As such, these burials perhaps represent the spread of an idea from further south rather than reflecting any 'local' influence.

GRAVE GOODS

Few of the burials contained grave goods, although this is typical of cemeteries in the northern and western parts of the province (Struck 2000, fig. 9.2). Apart from several earlier objects, which may have been curated and comparatively old when buried, all the dateable material was of a late date, ranging from the later 2nd to early 4th century. No objects were definitively of 4th- or 5th-century date.

Smith (2017, 46–7) has noted a significant drop-off in the provision of grave goods in graves in south-east England during the 4th century, particularly pottery, brooches and animal remains, which is similar to the pattern seen at Bainesse Cemetery. However, in south-east England, the incidence of coins and bracelets concurrently increases, which is the opposite to what was observed at Bainesse, where coins were never present (as currency) and bracelets were absent from the later graves.

Pottery

Apart from nails and hobnails, the most common finds within the graves in Bainesse Cemetery, including both inhumations and cremation burials, were complete and fragmentary pottery vessels. However, their presence was still rare when compared to cemeteries associated with towns in southern England, even in the 3rd and 4th centuries, where there was a trend towards smaller

grave good assemblages (Biddulph 2006b, table 30). Apart from the two 2nd-century samian cups and the jar/beaker in cremation Grave **269**, all of which were probably old when buried (see discussion in Chapter 7), the vessels included in both inhumations and cremation burials at Bainesse had a restricted date range in the early to mid-3rd century. This suggests that deposition of such grave goods was either a relatively brief 'fashion' or that different population groups with diverse traditions (either depositing or not depositing vessels) were using the cemetery at different times. The absence of vessels from later burials in the cemetery is notable, given that such grave goods were fairly common elsewhere in the Catterick area during the later 3rd and 4th century, including at Catterick Bridge, the Thomas Armstrong Block Factory and Hollow Banks Farm (Thompson 2002, 388–9; Speed 2004, 16; Eckardt *et al.* 2015, figs. 5–7).

The vessels recorded in Bainesse Cemetery (including those categorised as residual material) were almost exclusively beakers and small jars, together with the two samian cups mentioned above. All of these pots would have been suitable as drinking vessels. Six larger jars and an unguent pot were also used as grave goods.

In inhumations, placed pottery vessels were found in 13 graves; in nine cases these were associated with nailed coffins, although it should be noted that in several other graves evidence for coffins may have been lost due to severe truncation. Where a coffin was present, the vessels were invariably placed within it (Fig. 3.214). This suggests open-coffin funerals (cf. Booth 2017, 202), since if the vessels had been placed in the coffin at another location and then the coffin sealed and transported, the vessels would almost inevitably have become displaced. Vessels were normally placed on one or both sides of the head, where grave orientation could be determined, although in a small number of graves a position near the abdomen or knees was preferred. In Grave **36**, the samian cup had been placed in the grave fill above the level of the body. There was no strong correlation in Bainesse Cemetery between provision of pottery vessels and any other type of grave good.

Figure 3.214: Bainesse Cemetery: placed ceramic vessels (Cat. nos 11 and 12) within the coffin in Grave 177 (scale=10cm).

In Bainesse Cemetery, placed pottery vessels (dated to between the early to mid-3rd century) were mainly found in the graves of juveniles aged 3–5 (six burials of nine where age at death could be determined). The two graves containing deliberately smashed vessels (Graves **64** and **229**) also contained non-adults, as did the two burials (of five) containing 'redeposited' vessels for which the age of the deceased could be suggested (Graves **163** and **215**, in both cases based on the small size of the coffin). A similar result was found in the Bainesse roadside settlement (CfA Site 46), where the two burials containing placed pottery vessels included a child under the age of five and a 15- to 18-year-old, who could arguably fall into either an adolescent or adult social bracket (Thompson 2002, 387, graves 1730 and 1738). This stands in contrast to the 4th-century burials at Catterick Bridge, where only one of the six burials containing pottery or glass vessels was a child (Thompson 2002, 388–9). No children were represented (where age could be determined) amongst the 4th-century burials at either the Thomas Armstrong Block Factory or Hollow Banks Farm, where pottery vessels were associated with seven more adults (Speed 2002; 2004, 16).

Inhumations containing placed or smashed pots were mainly concentrated within the southern part of the excavated cemetery area, including all of the burials with more than one vessel (Fig. 3.215). The remaining three such burials lay within a relatively small cluster within the northern part of the cemetery, with none found elsewhere. Redeposited vessels were mainly found near the western margin of the cemetery, with another found in Grave **149** to the north of the ring ditch. This clustering suggested that only some of the groups interring their dead within the cemetery considered such vessels to be a suitable accompaniment for the deceased.

Many of the pottery vessels found as placed grave goods within Bainesse Cemetery were incomplete and often missing part of the rim. This phenomenon is described and discussed in more detail by Leary in Chapter 7 and has been suggested elsewhere to represent deliberate mutilation or 'killing' of the vessels (Biddulph 2006b, 31), perhaps to enable them to accompany the deceased into the afterlife.

Fragmentary vessels at Bainesse were usually found outside the coffin, where present, suggesting that they were deposited (either intentionally or accidentally) into the grave after the coffin was sealed. A number of vessels

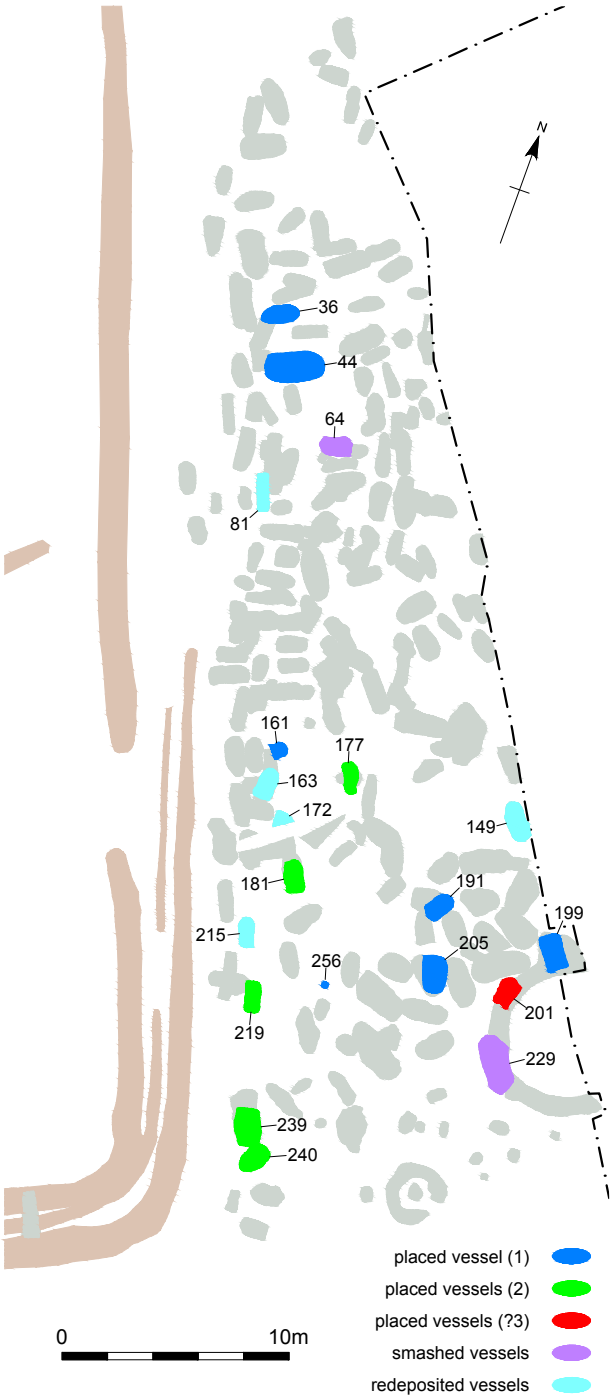


Figure 3.215: Bainesse Cemetery: burials with placed, smashed and residual pots.

were clearly broken prior to, or during, their addition to the grave. Vessels that were apparently deliberately smashed during funerary rites have been recorded elsewhere in Britain, with compelling evidence from Welford on Avon, Warwickshire, where joining fragments of glass beakers were found both within and around a lead-lined coffin (Booth 1994), and less certainly at several other sites in Britain, including Tadcaster Road and The Mount, York (Wenham 1968, 25; Savine 2017, 50). They are also found more widely across the Empire, for example at Vagnari, southern Italy, where ceramic vessels, which were the most common category of grave good, were often found broken and incomplete (Prowse 2016, 222).

The pottery that was found to be residual in graves probably reflected activities occurring on the cemetery ground surface. It is assumed that the cemetery area was demarcated from the initiation of the settlement at Bainesse and continued to have the same function throughout (and after) the Roman period. This prevents the confusion in the archaeological record that would have been caused by multiple successive functions for the site, something that has been noted in peri-urban burial plots elsewhere (Pearce 2013, 467–8). The near absence of animal bone in the grave fills in Bainesse Cemetery (discussed below) suggests that the area was not employed for rubbish-dumping or other alternate uses seen at other cemetery sites (Pearce 2017, 14). The contrast in the pottery assemblages recovered from the funerary features at Bainesse when compared to the surrounding non-funerary features is therefore of increased significance. Features forming the enclosure immediately to the west of the cemetery contained a much wider range of fabrics and vessel types, including bowls, dishes, flagons, mortaria and amphorae, which are consistent with debris from secular domestic occupation pre-dating the nearby funerary activity (see Chapter 7). Much, if not all of the 'residual' material found in the cemetery is thus likely to have derived from funerary, votive or commemorative rituals undertaken on the cemetery ground surface and was subsequently incorporated into graves during backfilling.

The 'classic' Roman funeral, at its most elaborate, was a complex affair that included washing, anointing and dressing of the body, possibly followed by a period of lying-in-state. When the time came for the funeral, this was likely to include a procession of musicians and mourners to the grave site. The body was arranged either on its pyre or in its grave, and grave goods were placed with it (Toynbee 1971, 44–50). Following a cremation, some of the burnt bone and sometimes part of the pyre material was then collected for burial. After the burial had been completed, further rituals were carried out both at the home of the deceased and at the grave side, where a funerary feast was undertaken. The funerary feast could involve cooking of a meal on site. In addition, visits were made to graves subsequent to the funeral, particularly on a series of religious festivals throughout the year, at which further rituals were conducted, including consumption of meals and lighting of lamps (Toynbee 1971, 43–51). These activities could result in deposition of material (pottery, food remains and other objects), either within secondary burial contexts, outside the original grave on the cemetery surface, or disposed

of into adjacent features, such as boundary ditches. Although such evidence did not survive in situ at Bainesse (due to subsequent truncation), where conditions have permitted the survival of stratified deposits around and between burials, excavations, particularly those in the Mediterranean world, have provided considerable insight into such activity, both on the cemetery surface and within tombs (e.g. Ortalli 2017; Rife and Moore Morison 2017).

In Britain, such undisturbed Roman deposits are rarely encountered during excavation and are unlikely to survive on sites that have been truncated, such as Bainesse Cemetery (Pearce 2017, 14). The majority of the available evidence comes from material either deposited as secondary deposits within burial contexts, disposed of into adjacent features, or trampled into the cemetery ground surface (Pearce 2013, 463) and hence is difficult to distinguish from more conventional refuse disposal. However, better circumstances of preservation occasionally suggest that similar practices were followed in Britain (*ibid.*, 467). For example, at Holborough, Kent, construction of a large barrow over an elaborate cremation burial served to preserve the contemporary ground surface and evidence for funerary activity in the area surrounding the grave. This included a lightly constructed, possibly temporary shelter over the grave, several shallow pits that contained a folding chair, remains of what may have been a funerary meal, and a deposit of pyre debris, as well as a dump of five smashed amphorae that lay on the ground surface (Jessup 1954, 12–8). At Healam Bridge, two cremation burials were found inserted at different times into a boundary demarcated by an upstanding earthwork bank, itself a rare survival. External to, but possibly associated with these burials, were the remains of two samian cups that were found within the bank material (Leary 2017b, 65–6). At St Dunstan's Terrace, Canterbury, large potsherds and at least one, apparently in situ, foot ring found within a remnant cemetery soil were interpreted as possible evidence for commemorative offerings outside the graves (Weekes 2017a, 109). It is likely that similar evidence was once present on the Roman ground surface within Bainesse Cemetery but has been lost as a result of truncation by subsequent agricultural activity.

Nailed footwear

Definitive or probable evidence for nailed footwear (Fig. 3.216) was found in 32 of the 232 inhumations (13.7%) in Bainesse Cemetery, together with Grave **13420** in Field 159A, and nine of the 17 cremation burials. Another 12 graves in Bainesse Cemetery and one grave in Field 159A contained small numbers of nails, some of which could have represented disturbed footwear. This can be compared with the 111 of the 304 graves (36%) excavated at Lankhills that were considered to contain nailed footwear as grave goods (Powell 2010a, 313).

Figure 3.216: Bainesse Cemetery: nailed footwear in Grave 22.

Bayesian analysis of the radiocarbon dates obtained from graves containing nailed footwear suggested that their deposition spanned the duration of the cemetery (Hamilton, Chapter 10). The spatial patterning of hobnails in graves across the excavated cemetery does not appear to show any clear patterning. While graves containing definitive evidence for nailed footwear appear to be mainly concentrated along the western edge of the cemetery and absent along the north-eastern part of the excavated area, the fact that the extent of the cemetery beyond the north-eastern edge of the excavation remains unknown means that any such patterning cannot be fully tested. In addition, several graves containing nailed footwear were found in the area to the north of the ring ditch (Fig 3.217). Therefore, given the limited sample of the cemetery examined, any apparent distribution should be treated with caution and no distinct chronological patterning could be determined.

The low incidence of nailed footwear within the dense group of inhumation graves adjacent to, or cut by, the north-western side of the ring ditch (three of c.40 graves, 7.5%, compared to an overall ratio of 13.7% for the whole cemetery) contrasted with the high incidence of nailed coffins and other grave goods in this area. This may indicate affluence, with the relative absence

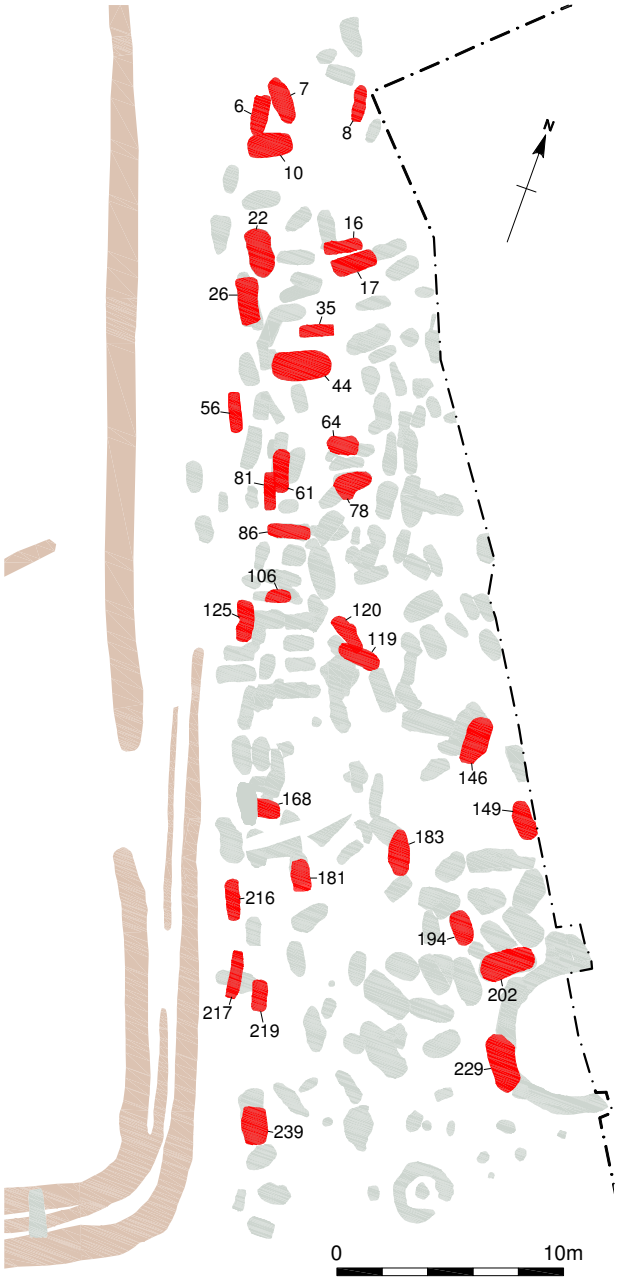


Figure 3.217: Bainesse Cemetery: inhumations containing evidence for nailed footwear.

of nailed footwear perhaps suggests that 'workwear', such as heavy nailed boots or shoes, was shunned by this group in favour of the use of lighter 'indoor' sandals or slippers with which to dress the dead. Many types of Roman footwear did not incorporate hobnails, and hence are unlikely to leave any archaeological trace except under exceptional conditions, such as extreme dryness, waterlogging or other circumstances producing an anaerobic environment. A burial in a stone coffin at Boscombe Down, Wiltshire, contained the remains of a woman and child wearing cork-soled shoes and calfskin boots respectively, while another burial in Budapest contained a further example of cork-soled shoes (Pearce 2013, table 4). However, the general absence of organic grave goods from the archaeological record at Bainesse precludes any true patterns in this regard from being assessed.

Of the cremation burials containing hobnails, the majority were located within the cluster of cremation burials to the south of the ring ditch, with only Graves **257** and **258** falling outside of this. Only three could be considered to contain definitive evidence of nailed footwear (Graves **257**, **266** and **270**, all of which contained 20+ hobnails). Grave **260** contained 23 hobnails but, as noted above, these may have been redeposited from Grave **259** which it cut. The remaining graves all contained less than five hobnails. However, this is likely to be reflective of selection of pyre material for burial, rather than evidence of presence or absence of shoes on the pyre. The distribution of cremation burials containing nailed footwear appears to conform to a pattern in the choice of location for cremations, and no distinct spatial patterning outside of this could be perceived.

Items of personal adornment

Only a small number of burials within Bainesse Cemetery contained items of personal adornment (Fig. 3.218). These included anklets, bracelets, a brooch, strings of beads and several items that were likely to have had an amuletic function. Graves containing such items were concentrated in the area to the north-west of the ring ditch, with a more widespread distribution along the western edge of the cemetery area. As with coffins and

Figure 3.218: Bainesse Cemetery: the bead necklace and copper-alloy bracelets in Grave 235 (scale=25cm).

nailed footwear, they were notably absent within the north-eastern part of the excavated area.

Although only small numbers were present, the burials containing anklets and bracelets/armlets displayed differing distributions (Fig. 3.219). Two of the three burials containing anklets lay near the northern edge of the cemetery (Graves **16** and **35**) while the third (Grave **119**, which also included a bracelet) lay near the middle of the excavated area. Graves **16** and **119** had similar modelled date ranges (*cal AD180–360* and *cal AD165–350* respectively) while Grave **35** remains undated. Conversely, six burials containing bracelets/armlets (Graves **119**, **130**, **149**, **194**, **198**, and **235**) lay within the southern and central parts of the area, with none to the north.

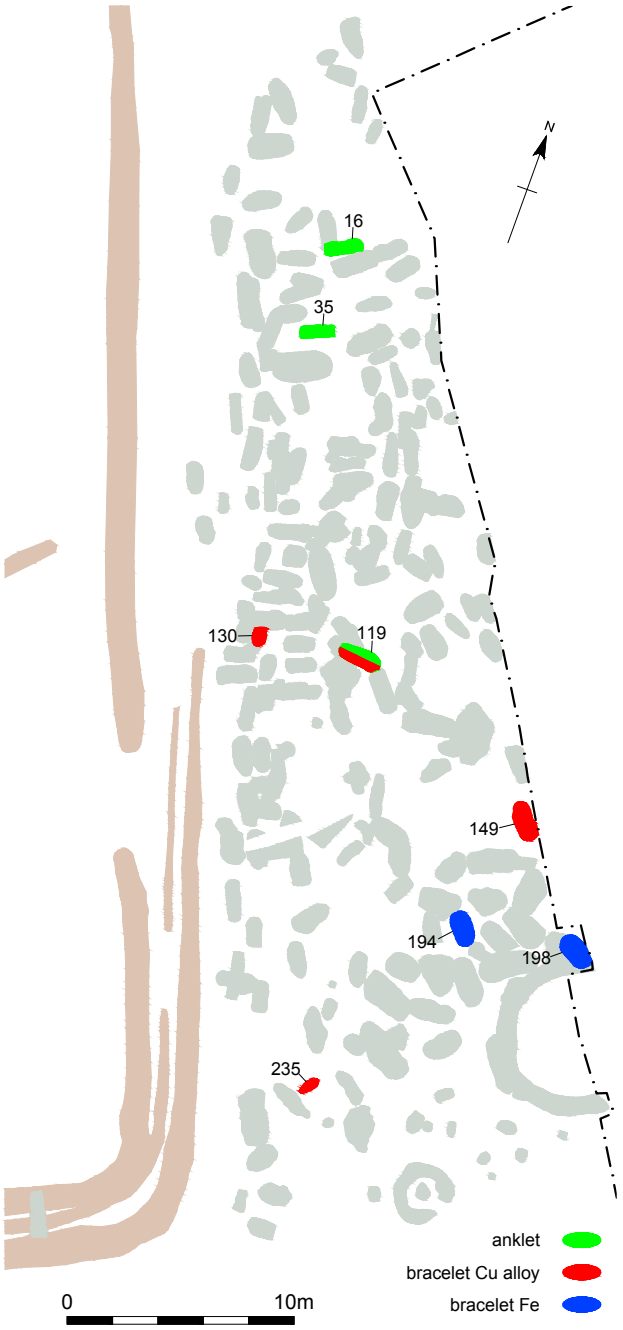


Figure 3.219: Bainesse Cemetery: graves containing anklets and bracelets.

The single bracelets found in Graves **194** and **198**, located only 4.5m apart, were distinguished by being made of iron and had probably been placed on the body (i.e. on the shoulder and leg) rather than worn (see Chapter 8); other bracelets found elsewhere in the cemetery, all of which were produced using copper alloy, were either worn or, where insufficient bone survived to be certain, lay in positions that suggested they had been worn. The dating of Graves **194** and **198** (*cal AD255–450* and *cal AD240–380*) indicate that they may have been broadly contemporary. These circumstances suggest a possible connection between the two burials, as has been suggested for a pair of burials at Hollow Banks Farm (an adult male and female), which also contained single bracelets that had been placed on the body at the time of burial (Eckardt *et al*. 2015, 216).

The nine graves (inhumation Graves **82**, **103**, **148**, **150**, **180**, **203**, **221** and **235**, together with cremation Grave **269**) that contained objects likely to have been worn around the neck in life, such as beads and objects of potential amuletic significance, including *bullae*, the pierced coins and dog tooth, were mainly concentrated in the area to the north and west of the ring ditch, with two outliers located further north at the western edge of the cemetery. However, they were absent from the northern and north-eastern parts of the excavated area (Fig. 3.220). Both classes of object had similar spatial distributions and in three cases occurred together in the same burial.

The provision of the ornate necklaces and amulets may follow a pattern noted more widely across the Roman world, where prematurely deceased unmarried girls and women were accompanied to the grave by unusually rich items. Martin-Kilcher (2000, 73) has suggested that this reflects a 'non-attained wedding'. At the Lankhills cemetery, Winchester, there was statistical evidence for increased deposition of bead-strings in the graves of what are presumed to be adolescent or younger girls (Cool 2010b, 32). It has also been noted elsewhere that girls and young women were frequently buried with larger numbers of bracelets and bangles than more mature women (e.g. Cool 2010a, 307), which may reflect a similar tradition.

ANIMAL REMAINS

Few of the burials in the cemetery contained animal bones. Of the apparently residual calcined bone found within many of the inhumations, almost none was identifiable as animal bone, and much of it could have derived from pyre offerings that had become mixed with human remains. Residual unburnt animal bone

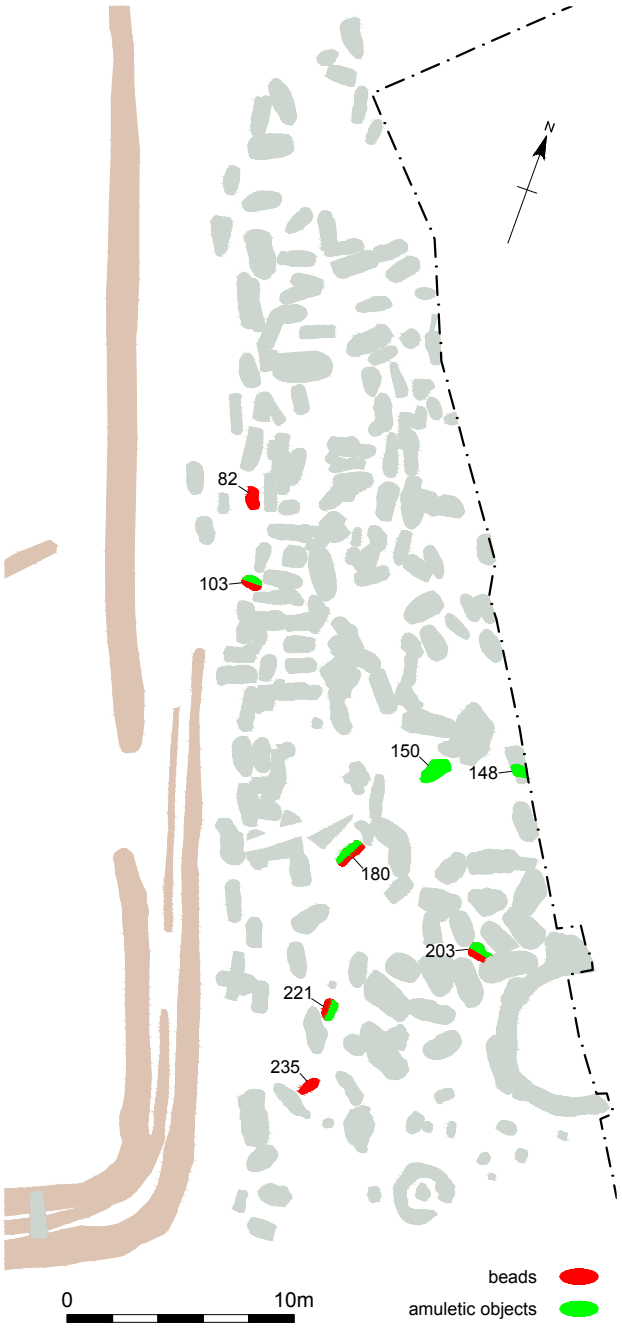


Figure 3.220: Bainesse Cemetery: burials containing beads and amuletic objects.

was almost entirely absent, the exception being a cattle mandible and teeth in Grave **92**, despite ample evidence for the role of animals, whether as offerings or foodstuff, from other cemeteries (Pearce 2013, 466–7). Observations during both the current A1 scheme and earlier excavations on the Catterick gravels suggest that, although bone preservation is generally poor where it has been in contact with the natural deposits (notably human remains lying at the base of a grave), material higher up within the fill of such features generally survives in much better condition. Given that animal remains were ubiquitous in non-funerary features elsewhere at Bainesse, the near-absence of animal bones within the graves is unlikely to have been a result of taphonomic processes. Its absence suggests that at no point during use of the cemetery was the area being used for general refuse disposal. Therefore, this supports the suggestion that the pottery found residually within grave backfills derived from funerary-related activities rather than rubbish disposal.

Several groups of animal bone within the cemetery could be defined as grave or pyre goods with more certainty. Cremated sheep/goat remains were found in two cremation deposits (Graves **257** and **264**; see Wright, Chapter 9). The identified parts all derived from the feet of the animals, but this is likely to have been a result of taphonomic processes, as such bones are small, robust and likely to survive both the cremation process and any subsequent disturbance in an identifiable form.

The only unburnt bones likely to represent a grave offering were the partial remains of a galliform, probably a chicken (Maltby *et al*. 2018, 1004), found in Grave **240**. These were the first such remains to have been identified in the *Cataractonium*/Bainesse area, although the poor conditions for preservation of such material means that such offerings may have been more common than has been recorded archaeologically. However, the remains of a small bird have also been found placed in a burial at Catterick Bridge (CfA Site 240, grave 2186; Wilson 2002a, 201). Although complete or partial chicken skeletons are comparatively common in Roman burials (Philpott 1991, 204), few are known from northern England. In the cemetery excavation at Trentholme Drive, York, 12 complete or partial chicken skeletons were found, nine of which were recovered from burials (including two from a single grave), two were found together in a pit and the context of the last is not recorded. One complete galliform skeleton was also found in a pot. Within four other graves, egg shell was found within pots (Wenham 1968, 51). At least one of these fowl had been placed in the grave with its gizzard (and presumably other internal organs) intact (*ibid.*, 38), and hence was not prepared as a food offering. There appeared to be no correlation between the presence of such remains and the age or gender of the human remains (Morris 2011, 106). More widely, Philpott (1991, 202) notes that birds, usually domestic chickens, were by far the most common animal offering in burials and their inclusion in graves has been noted widely across the northern European provinces (Cooke 1998, 231). Eggs were associated with death and rebirth in the ancient world, and the fowl that produced them are well represented at many excavated temple sites (Eckardt 2014, 170; Maltby *et al*. 2018, 1009). In a funerary context, the iconographic association of the cockerel with the god Mercury, who conducted the dead to the underworld, remains speculative (Henig 1984, 199; Booth *et al*. 2010, 519). The chicken remains found

in Grave **240** at Bainesse were, therefore, representative of a type of grave good relatively commonly found in Roman Britain, although few examples have yet been identified in the northern part of the province, and quite likely to have been of ritual rather than culinary significance.

None of the shellfish remains recovered from graves were considered to represent grave goods. However, given the comments above concerning the absence of evidence for general rubbish dumping in Bainesse Cemetery area, it is quite possible that they represent debris related to funerary feasting.

The limited range of residual food and ceramic debris found within features in Bainesse Cemetery suggests that any feasting on the cemetery surface was limited to drink and pre-prepared dishes (with any meat removed from the bone in advance, but shellfish served within their shells). The residual ceramic debris suggests that many vessels associated with drinking remained in the cemetery (either broken during the funerary rites or left on the surface as discussed above), but that food serving vessels were subsequently removed.

PLANT REMAINS

A carbonised grape pip was recovered from cremation Grave **262** (Baines, Chapter 9). In a 3rd-century inhumation near the basilica of St Ambrose in Milan, unusually good conditions had preserved grapes laid on the chest of a young woman (described in Pearce 2013, 454), and something similar can be envisaged on the pyre for the cremation burial at Bainesse.

A range of other seeds found in the fills of a number of inhumations in the cemetery, including cereals and pulses (Baines, Chapter 9). These presumably also represent pyre goods, as it is unlikely that any part of an inhumation funeral would have resulted in conditions conducive to their charring. Where found in such burials, they presumably formed part of the same debris field that had also contributed inclusions of charcoal and calcined bone (discussed below).

CREMATIONS

The 17 cremation burials were concentrated in two parts of the cemetery (Fig. 3.5). The main concentration of 15 lay at the southern end of the excavated area, adjacent to its postulated southern boundary, and lay between the western enclosure and the ring ditch. Two of the burials cut the fill of the ring ditch but continued to respect its internal space. Several cremation burials cut earlier inhumations. The remaining two cremation burials lay close together near the centre of the excavated area. Again, one of these cut (or had conceivably been placed into the top of) the fill of an earlier inhumation.

Bayesian modelling of the radiocarbon dates from the cremation burials suggests that the rite began in the cemetery between cal AD145–240 (95% probability), although more probably cal AD165–215 (68% probability), and ended between cal AD400–475 (95% probability), with a high likelihood of this being cal AD425–455 (68% probability) (see Hamilton, Chapter 10). However, this extended date range is at odds with the dateable finds (pottery vessels and a brooch) recovered from these deposits, which suggest an early to mid-3rd century date (see Chapters 7 and 8). As a result, it seems likely that, unless many of the finds had been curated for a considerable time prior to burial, the majority of the cremation deposits dated from the same restricted period. Plotting of the modelled date ranges supports this conclusion (Fig. 3.221).

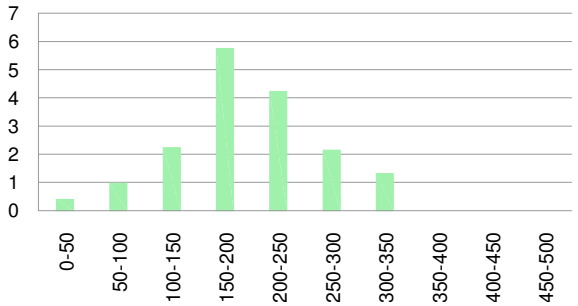


Figure 3.221: Bainesse Cemetery: graph of the modelled date ranges for the cremation burials (at 1σ probability)

Apart from five cinerary urns, few goods accompanied these burials. Associated fragmentary pottery vessels probably represented pyre goods, while other finds included nails and hobnails, and fragments from a single brooch. This sparsity of finds from the Bainesse cremation burials reflects the limited range of material recovered from cremation burials at Brough Park (Chapter 4) and other cremation cemeteries in the northern military zone, such as Lanchester, where relatively few of the cremation burials included either pottery vessels or hobnails (Turner 1990, 76).

The apparent reintroduction or resurgence of the cremation rite within Bainesse Cemetery in the 3rd century is intriguing. Both the novel form of burial and the concentration of most of these burials in a small area around the ring ditch at the southern end of the excavated area could suggest the arrival of a new element within the local population. Cool (2002, 42–3) has discussed the possibility of a new military unit arriving in the area during the late 2nd century that may have originated from the Rhine or Danube frontier. This is based on the presence of a significant assemblage of knee brooches and gold-in-glass beads within late 2nd-century contexts at *Cataractonium* and Bainesse, both of which potentially derived from this part of central Europe. There

is also an assemblage of military metalwork from the previous excavation at Bainesse that includes weapons, much of which dates from the late 2nd to 3rd century and was enough to suggest that "the status of the Bainesse settlement may not be straightforwardly civilian" (*ibid.*, 34). Although the suggested dates for those elements of the material culture discussed by Cool are slightly earlier than that suggested for the Bainesse cremation burials by the associated pottery, it is conceivable that both strands of evidence reflect the stationing of a 'foreign' military unit in the area during the 3rd century. There has been a previous, tentative suggestion of a possible link between Bainesse and Sarmatian (Iazyges) cavalry units, which were sent to Britain in AD175 (Cool 2002, 43; Wilson 2002b, 451–2). The evidence uncovered by the current A1 scheme does not support this, not least because the Iazyges and their neighbouring Sarmatian tribes in the Carpathian basin practiced a funerary rite consisting of furnished inhumation (e.g. Vaday *et al*. 1989; Istvánovits and Kulcsár 1998). However, other native tribes in the Danubian provinces did sometimes inter their dead in a manner similar to that seen in the cremation burials at Bainesse, with mixed cremated bone and pyre debris deposited in a simple pit (e.g. Jovanović 2000, 204). Cremation Grave **272** in Bainesse Cemetery included a continental P-shaped brooch (Cat. no. 400), which is likely to have been worn by a member of the military (see Chapter 8).

The penannular gully

The cremation burial in Grave **273** was surrounded by a penannular gully **12353** with a surviving external diameter of 2.70m, which presumably originally surrounded a small mound created from the spoil derived from the gully. Small barrows, represented by encircling ditches with diameters up to 7m and occasionally surviving mounds, are predominantly a phenomenon of the northern military zone (Struck 2000, fig. 9.3), where they have been found in cemeteries associated with military sites. They were typically associated with cremation burials, and many were of very small size, as at Bainesse. At Lanchester, a small pit containing a burial lay within a sub-square enclosure with an internal width of 1.1m by more than 1.1m (Turner 1990, 72 and fig. 5). Small mounds (of 1m and 2m diameter) surrounded by ditches have been noted near Halton Chesters (Charlton and Mitcheson 1984, 20), while at Petty Knowes, High Rochester, the excavated mounds were 1.2-4.0m in diameter but did not all have encircling ditches (*ibid.*, 5–7). At Low Borrowbridge, near Tebay, many of the cremations were associated with similarly small enclosures, which were mostly square with rounded corners or, in one case, penannular (Lambert *et al*. 1996, 101 and fig. 5.7), while at Beckfoot more cremations were surrounded by ring-ditches (Collins 2009). Another presumed barrow cremation burial surrounded by ditches has been excavated at Birdoswald (Wilmott 2010, 18), and a cremation burial was covered by a mound at South Shields (Petts 2009, 162). At Moor Lane, Stamford Bridge, to the east of York, a probable cremation burial of 1st-century date was also surrounded by a small 2m diameter ring ditch (Roe 2009, 73–4).

Elsewhere, and in a suburban environment, excavations at Colchester have identified a group of 10 small annular or penannular ditches measuring between 4.0m and 6.5m in diameter that, where undisturbed by later activity, enclosed cremation burials (Pooley *et al*. 2011, 32). Given the absence of comparators from civilian contexts elsewhere in the province, the excavators concluded that here the burial rite also had a military origin (Pooley *et al*. 2011, 204). Struck suggests that, rather than being a continuance of a native practice, this burial tradition was imported from the Danubian area with the military (2000, 92), although similar burials also occurred on the Rhine frontier in civilian cemeteries (e.g. Aarts and Heeren 2017, figs. 5.5 and 5.7). Given these interpretations, it is possible that cremation Grave **273**, and perhaps the surrounding group of cremation burials in Bainesse Cemetery represent members of the military community who were possibly associated with a unit transferred from the Rhine or Danube area.

Redeposited cremated remains in other burials

Varying quantities of calcined bone were recovered from soil samples taken from the fills of 28 of the inhumations in the cemetery. Some of this material could not be identified, although identifiable human skeletal elements were present in 27 of these assemblages. The graves containing calcined bone were spread across the whole excavated area, although there was a marked concentration (14 burials) of such material immediately to the north-west of the ring ditch (Fig. 3.222). In two cases (Graves **151** and **202**), the material could have derived from later cremation burials cut into the inhumation grave backfill, but in most cases no cremation deposit was identified nearby. No calcined bone was recovered from any of the burials suggested to be the earliest in the northern part of the area (although this may not be statistically valid given their small number), but thereafter the material was present in small numbers of graves throughout the lifespan of the cemetery. The presence of small quantities of calcined bone has been noted within inhumations at other sites, such as at Healam Bridge, where four graves contained such material (Holst and Keefe, 2017, 199 and table 16).

There are several scenarios that could account for this phenomenon. From the perspective of the roadside

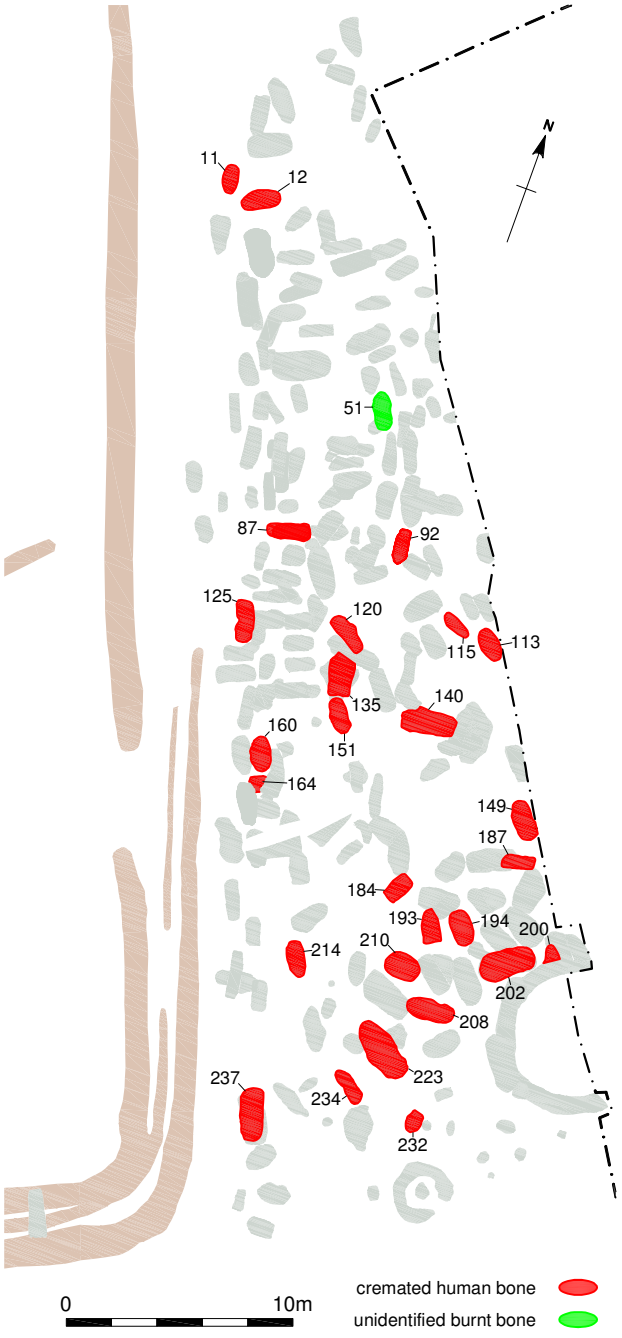


Figure 3.222: Bainesse Cemetery: graves containing redeposited calcined bone.

settlement and following the suggestion earlier in this chapter that the cemetery space may initially have been populated from the eastern (nearest to Dere Street) edge. Its western (furthest) edge would have presented a raised and open area suitable for the public spectacle of cremation pyres, although at St Dunstan's Terrace, Canterbury, pyre sites were apparently concentrated near a road frontage (Weekes 2017a, 103). Selective collection of the burnt remains at Bainesse for burial nearer to the settlement would have a left surface spreads of pyre material, including calcined bone, which could then have become incorporated into the fill of later graves. Interment of cremated remains at some distance from the pyre site can be suggested at Corbridge, where two *ustrina*, one consisting of a large burnt area and the other a small cobble raft capped with burnt clay and associated with a spread of charcoal, lay at some distance from a series of cremation burials on the opposite side of Dere Street (Casey and Hoffman 1995, 17-21).

Alternatively, there may have been an early phase of funerary activity across the area consisting of cremation burials, although these would need to have been very shallow for them to be entirely truncated by later funerary and agricultural activity. Some of the residual pottery evidence from the excavation, including burnt sherds from vessels shown to be earlier than those found in the excavated cremation burials, may support this scenario (see Chapter 7). There is some evidence from Britain (e.g. at Colchester; Pooley *et al*. 2011, 32 and fig. 1.17), and ample from the Mediterranean world, for urned cremations to have been buried in very shallow graves with the pot projecting above ground. Any such shallow burials at Bainesse would easily have been destroyed by subsequent activity, leaving calcined bone in the soil to become incorporated into later burials. Pooley *et al*. (2011, 58) have also observed that such projecting urns would have been rapidly fragmented by grazing, although the extent to which the cemetery at Bainesse would have been accessible to livestock is unknown.

Other mechanisms can be suggested for this material being present. A widespread occurrence of cremated bone has been suggested as possible evidence for scattering rather than burial of ashes at several sites including Low Borrowbridge and Derby Racecourse (Wheeler 1985, 231; Lambert *et al*. 1996, 122). More directly, secondary cremation 'burials' or 'cenotaphs' that contained little or no human bone had been inserted as secondary deposits into the top of inhumations at St Dunstan's Terrace, Canterbury (Weekes 2017a, 92), although such a practice seems unlikely at Bainesse, where no concentrations of the calcined material were noted within the inhumation fills.

THE BURIAL POPULATION

The human remains from Bainesse, summarised within the grave catalogues above, are discussed in more detail in Chapter 6. The demographic make-up of the various burial populations, and how this relates to various aspects of funerary behaviour, both within each site and across the A1 scheme, is discussed in Chapter 11. A brief summary and discussion of burial practices is provided below.

Variation of burial practice within the cemetery

The distribution of various burial practices within Bainesse Cemetery, both spatially and temporally, makes

it quite clear that a wide variety of rites associated with the funerary process were being employed within this burial area. The following section is mainly restricted to an intra-cemetery discussion of these practices. Comparison of funerary rites across the wider *Cataractonium*/Bainesse area and beyond is explored further in Chapter 11.

The localised geographic distribution of some aspects of burial behaviour within the excavated area suggests that some elements of the funerary ritual were only employed by limited sections of the population, possibly relating to families, rather than being universally embraced. As noted above, the employment of pottery vessels as grave goods, cobble lining of graves and 'double-decker' burials each showed distinct and limited distributions, and the small numbers of burials containing anklets, bracelets and necklaces/amulets also appeared to lie within restricted parts of the excavated area. To these, there can be added a group of graves in the north-eastern part of the excavation where grave goods or other furnishings were almost all absent. Some other restricted distributions, such as decapitated and prone burials and the employment of cists, were a product of the restricted use of only the southern part of the cemetery area in the late Roman period.

Preservation of the human remains was generally poor, limiting the possibilities for identifying kinship between individuals using biological traits. The only relationship that can be suggested on these grounds is one between the occupants of Graves **6** and **7**, found adjacent to one another, who were both suggested to have had an African or mixed-race lineage (Holst *et al.*, Chapter 6). The modelled radiocarbon dates for these individuals (*cal AD155–235* and *cal AD215–390* respectively) suggest that more than a single generation is represented. However, this grouping remains the best candidate for the presence of a 'family plot' within the cemetery.

Some groupings suggest varying social or economic status between different parts of the cemetery area. Burials immediately to the north and north-west of the ring ditch (which appeared to represent a preferred location within the cemetery) included, as noted above, increased usage of nailed coffins, pottery vessels and items of personal adornment. Nailed shoes were, as discussed above, relatively rare in these burials. Many of the burials towards the western edge of the cemetery also included nailed coffins and occasional items of personal adornment, although in smaller numbers, but these were more likely to include nailed footwear. This area, located near the cemetery boundary, still appears to have been an attractive place to inter the dead despite its liminal location, perhaps for the purely practical reason that the graves were easier to relocate.

In contrast, the group of burials placed away from the boundary, in the north-eastern part of the excavated area, were almost entirely unfurnished and either represent the 'poor' end of the social spectrum or people with a different funerary tradition. It should be noted that this part of the area may once have been prone to occasional

Figure 3.223: Bainesse Cemetery: pierced coin (Cat. no. 57) leaning against cinerary urn (Cat. no. 39) in Grave 269 (scale=10cm).

flooding from the Brough Beck, which would have run at a higher level in the past (Speed 2017, 53–5), making it a less attractive area for burials. The cooler and wetter climate in the early post-Roman period (Hendon *et al*. 2001) will have exacerbated any flooding problems, perhaps accounting for the restricted distribution of late 4th- and 5th-century burials to the slightly higher ground in this area.

Localised burial practices

Given the large number of Roman burials now known from *Cataractonium*, Bainesse and their hinterland, it is notable that a number of funerary practices have only been observed in Bainesse Cemetery, but not in other local burial areas. This emphasises the heterogeneous nature of Roman society in the area (at least in death) at a larger scale, the wider evidence for which is discussed in Chapter 11. Individual 'unique' elements of Bainesse Cemetery assemblage not encountered at other funerary sites in the area included the ring ditch, the penannular gully, 'double-decker' or 'stacked' burials, and pierced coins (Fig. 3.223). In general, pierced coins were absent from Roman contexts at *Cataractonium*, but another very worn pierced coin of 2nd-century date has been found in a non-funerary context in Catterick village, which presumably also represents part of the Bainesse settlement (Gosling and Carne 2003, 4–5). However, coins in their role as monetary units, rather than decorative or amuletic objects, were entirely absent from Bainesse Cemetery. Further discussion of the implications for this evidence can be found in both Chapters 8 and 11.

Early post-Roman burials

The excavation of Bainesse Cemetery, followed by extensive radiocarbon dating of the human remains, has produced what is probably the largest group of securely dated 5th-century 'Roman' burials in northern England. Six inhumations (Graves **185**, **187**, **209**, **216**, **217** and **237a**) have modelled date ranges lying entirely within the 5th century, while a further 35 burials (both inhumations and cremations) have modelled date ranges that begin earlier but extend into the 5th century.

Over the last two decades, it has gradually become apparent that, with increased use of radiocarbon dating, many earlier post-Roman burials were being excavated than had been apparent from 'conventional' dating based on finds and stratigraphic relationships alone. Roberts (2014) has collated the evidence for such burials in West Yorkshire, and burials at South Shields Roman Fort have also provided 5th-century radiocarbon dates (Bidwell and Speak 1994, 45–6 and 265).

It follows from such late funerary evidence that the people buried in these graves must have been living and working somewhere, and Bainesse Cemetery provides the best evidence yet for continuity of occupation in the roadside settlement that lasted well into the 5th century. It seems unlikely that the dead would have been brought here from *Cataractonium*, 2km to the north-west, which had its own cemetery areas in the late Roman period (Chapter 4). This late evidence from Bainesse Cemetery stands in contrast to the picture of decline and possible abandonment of the adjacent roadside settlement during the 4th century that has been presented by Wilson (2002b, 469–70), although this was based on excavation of only limited parts (<5%) of a very extensive settlement. While few finds are associated with the late graves in Bainesse Cemetery, they are sufficient to indicate that industry, such as ironworking (nails and hobnails) and the manufacture of Roman-style footwear, was still available to the residents after AD410.

The Anglo-Saxon burial

The placement of the late Anglo-Saxon grave, which was radiocarbon dated to cal AD905–920 (3%) or cal AD965–1025 (92%), in the centre of Bainesse Cemetery may have referenced the earlier cemetery, given that any mound within the nearby ring-ditch may have still been recognisable, as may any other permanent stone Roman grave markers. Alternatively, it may have respected the adjacent post-Roman (but otherwise undated) field boundary or been an entirely coincidental 'field' burial. However, the latter is unlikely, given the evidence for continuation of burial within the north-east of England. Within an earlier Anglo-Saxon context, earlier monuments (both funerary and non-funerary) were commonly reused as a focus for burial. Commonly, this practice appears to have extended into the later part of this period, as seen at the nearby Scorton Cursus (Speed and Evans 2013, 18) and a linear earthwork at Scotch Corner (this volume, Chapter 5). Burials adjacent to boundaries were also commonplace in the early Anglo-Saxon period, sometimes developing into full-scale cemeteries, as at Hollow Banks Farm, which is located adjacent to *Cataractonium* (Speed 2002). Little work has been done in the area to determine the date at which the medieval/post-medieval (or earlier) agricultural landscape was laid out, although frequently the existing boundaries follow the alignment of former ridge and furrow cultivation, which is itself usually of uncertain date. Excavation at Leeming has shown that field boundaries already in existence by the 11th or early 12th century continued to be used until their removal during the 20th century (Ross and Speed forthcoming). Isolated burials with no apparent focus continued throughout this period and later, as for example the burial of probable 12th-century date found at Bridge Farm, Catterick (Rose 2012, 5–6). This argument may also apply to the burial

(Skeleton 6627) adjacent to the remains of the Roman temporary camp in Field 157. This remains undated and could also have been post-Roman in date.

CONCLUSION

Although larger numbers of burials have been excavated in Roman cemeteries in northern England than those at Bainesse cemetery, such as at Trentholme Drive, York (over 350 burials), and The Ridings, Malton (390 burials), both of these excavations were carried out in the 1960s; the former under far from ideal conditions, while the latter remains unpublished (Wenham 1968; Wilson 1968, 182). Archaeology has moved on a long way since then, with excavation and recording techniques and analytical methods now available that were undreamt of 50 years ago. Bainesse Cemetery thus represents the largest modern published sample of Roman burials from a single cemetery excavation in the northern part of Roman Britain (Fig. 3.224).

The dataset for Roman burials, both in Britain and continental Europe, is skewed towards urban cemeteries (Pearce 2013, 441; 2017, 2), and almost all of the larger Roman cemeteries that have been excavated in Britain (mostly in southern and central England, with the exceptions of York and Norton, as noted above) have been those associated with some of the major cities and towns of the province (Pearce 2013, table 1; 2015, 158–9), small towns such as Springhead, Kent (Biddulph and Booth 2006), or, more rarely, forts, as at Brougham, Cumbria (Cool 2004). There is also a numerical bias in the excavated record, particularly in the case of inhumations, towards later Roman burials (Pearce 2013, 448), although this increase in inhumations may in part result from a decline in the use of cremation as a burial rite. As a result, the cemetery at Bainesse is of enhanced significance for several reasons, including its size (in terms of the number of excavated burials), location, longevity, civilian status, and its 'rural' location as defined by the Roman Rural Settlement Project (Fulford and Brindle 2016, 10). In a wider context, relatively few burials have been excavated in the frontier zone of northern England compared to other frontiers of the northern Roman provinces (Pearce 2013, 449). The extensive programme of radiocarbon dating of the human remains at Bainesse, and the Bayesian modelling of the results, means that it is one of the best scientifically dated Roman cemeteries in Britain, greatly enhancing its value for future research.

Figure 3.224: Bainesse Cemetery during excavation, looking northwest.

CHAPTER 4
BURIALS AT CATARACTONIUM

Stuart Ross, Greg Speed and Steve Collison

INTRODUCTION

In total, 35 graves were identified in association with the Roman settlement of *Cataractonium* during the A1 scheme (Fig. 4.1). Burials were recovered from four of the areas of excavation (Fig. 4.2): Brough Park (Field 172); Fort Bridge (Field 176FB); Brompton West (Field 177/178); and Brompton East (Field 179). The graves comprised 26 inhumations and nine cremation burials, including a *bustum* burial that formed part of a small cremation cemetery located at Brough Park (Field 172). At Brompton West (Field 177/178) a larger number of burials were recorded to the rear of the northern suburb of *Cataractonium*. The graves dated to four provisional phases of the development of the town, which span the 2nd to 4th centuries AD.

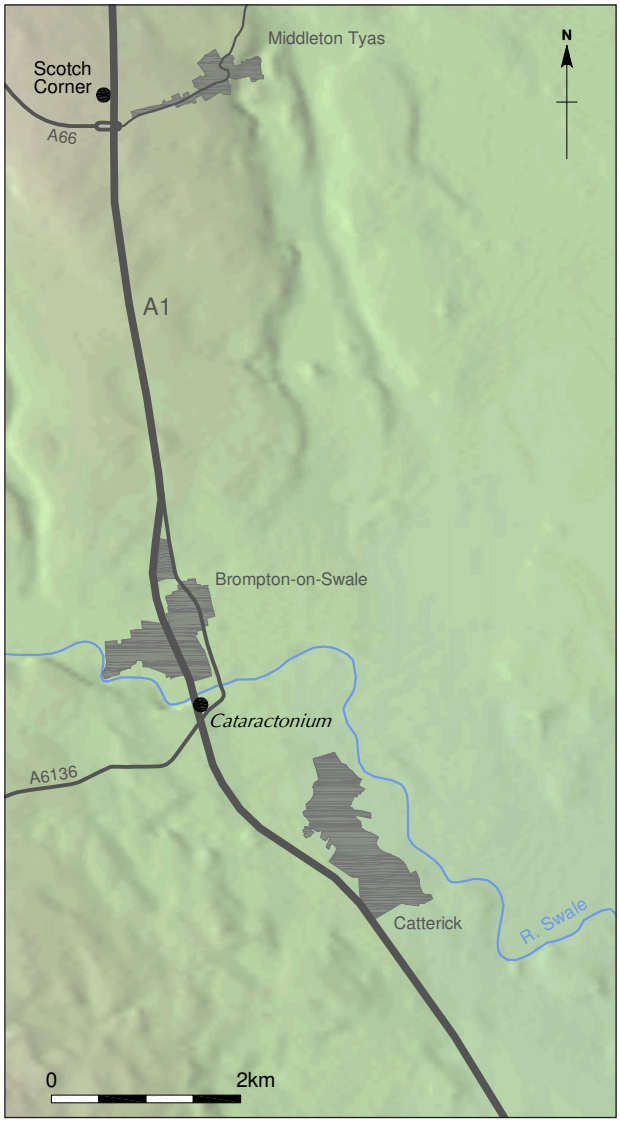


Figure 4.1: location of Cataractonium.

The burials recorded in and around *Cataractonium* were associated with a settlement, the origins of which were connected with the foundation of a Flavian fort sited on a low hill on the south bank of the River Swale. The fort had been situated to control the crossing point of Dere Street over the river. The extensive *vicus* that developed at the same time flanked both sides of Dere Street to the north and south of the Swale, with a northern suburb of the *vicus* present on the northern riverbank that was established from an early date. The construction of the fort and development of the *vicus* during the AD80s laid the foundation for up to five centuries of occupation, which would see the regeneration of the fort on at least two occasions and the construction of a circuit of defences around the *vicus* during the Antonine period; these defences would later be replaced by a town wall. The site may have been continuously occupied in one form or another into the 6th century.

Throughout the following chapter, the burials are discussed in chronological order and are associated with a general summary of the contemporary Roman settlement. Unless stated otherwise, all summary discussions of the development of *Cataractonium* represent a synthesis of the preliminary results of archaeological excavations carried out as part of the current A1 scheme (to be discussed further in Ross and Ross forthcoming) and those conducted by Wilson (2002a; 2002b).

ARCHAEOLOGICAL BACKGROUND

Prior to the A1 scheme, a small number of Roman burials had been found in the area of *Cataractonium* and many more in its immediate hinterland. These sites are shown on Figure 1.11 and listed in Table 1.2 (see Chapter 1).

As noted in Chapter 1, most of the previous excavation within the Roman town was undertaken in 1958–59 by E. J. W. Hildyard and John Wacher, in the area now occupied by the A1 motorway cutting (Wilson and Wacher 2002, 46–122). Finds of human remains were restricted to a cremation deposit in a glass bottle, suggested to be of 2nd-century date, and two infant burials dated to c.AD160–200 (*ibid.*, 57 and 74). Small excavations undertaken at Thornborough Farm in the 1990s recovered another neonatal burial, found in a 3rd-century deposit, although this was possibly residual (Thorpe and Wilson 2002, 229). Little is known about any Roman activity to the west of the site of the forts and

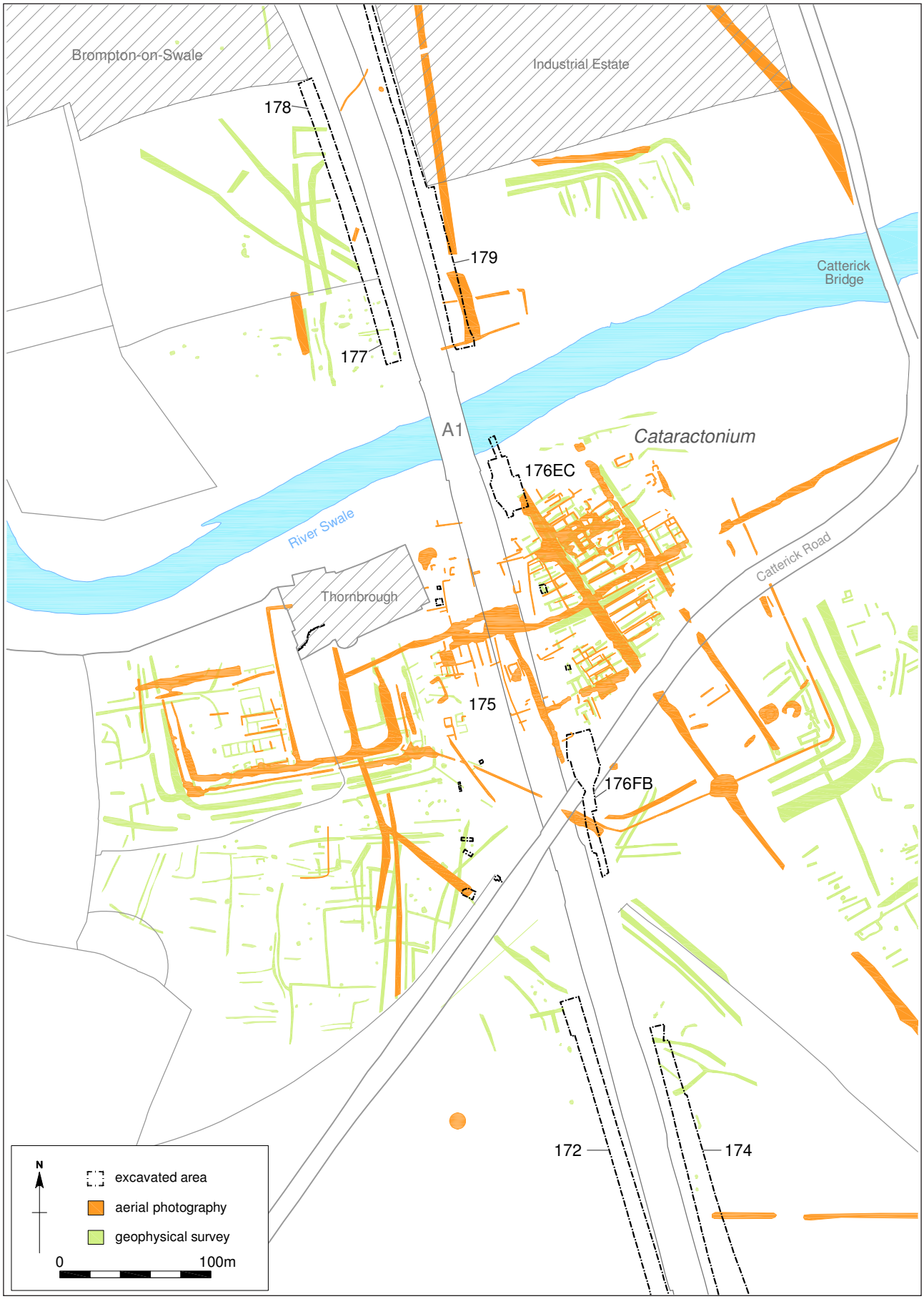


Figure 4.2: location of the excavated areas at Cataractonium, aerial photography plotting and geophysical survey interpretation.

no burials have been reported from this area.

Although the nature of Roman activity immediately to the east of *Cataractonium* is not fully understood, there is funerary evidence from the area. Whitaker (1822, 22) recorded that skeletons were found to the south of the Roman town throughout the area between *Cataractonium* and Catterick village, and noted remains found within a Roman structure that contained skeletons (possibly a mausoleum), which was located on the south bank of the Swale, probably to the east of the walled town, within what is now Catterick Racecourse car park. In 1999, the remains of two further skeletons were uncovered in this area, adjacent to a road known to lead from the eastern gate of the later walled town (Falkingham 2000). Bishop Richard Pococke, in a letter written in 1760, mentions small barrows "at some little distance to the west" of the Roman town (Hodgson 1915, 201), although the context in which they are described indicates that these actually lay to the south. In 1984, trial trenching within the circuit of Catterick Racecourse identified a roadside settlement along the line of Dere Street, and Roman burials were documented in back-plot areas (Wilson 2002a, 214–5). Five graves and three possible graves were recorded, all of which dated to the early to mid-4th century.

The bulk of the funerary evidence from the vicinity of the Roman town, however, comes from a series of excavations undertaken in Brompton, on the north bank of the Swale, between 1972 and 2002. In 1978, a drain was installed on the west side of the A1, which ran northwards from the Swale to Bridge Road. This construction uncovered three inhumations as it crossed fields excavated as part of the A1 scheme at Brompton West (Field 177/178) and Honey Pot Road to the north (Wilson 2002a, 205; 2002b, fig. 428b). When Honey Pot Road was subsequently developed for housing in 1983, another grave containing two skeletons was excavated, one of which was accompanied by a finger-ring key (Wilson 2002a, 205–8).

In 1972, Wacher excavated a series of trenches in the area between the Swale and what is now the Thomas Armstrong concrete block factory, revealing roadside structures at the eastern side of Dere Street and a short-lived defensive perimeter comprising a rampart and ditch (Wilson and Wacher 2002, 122–38). Disarticulated human bone was recovered from the early Roman deposits and two burials were exposed. One contained an infant, which dated to the 2nd century, and the second was a 4th-century adult inhumation burial (Wilson and Wacher 2002, 128 and 135). Neither burial contained grave goods. In 2002, during construction of the Thomas Armstrong factory, a small area of surviving archaeology was excavated immediately to the north of Wacher's trenches. The investigation recorded pre-Roman deposits, part of Dere Street, a sequence of Roman roadside settlement, and five burials of mid- to late 4th-century (or later) date, which were placed behind the street frontage (Speed 2004, 16). Two of the burials were accompanied by pottery vessels.

Between 1971 and 1980, excavations were undertaken at Catterick Bridge, 150m to the east of Wacher's trenches, by the Richmondshire Excavation Group, and later in 1983 by the Central Excavation Unit. These revealed a sequence of Roman and Early Anglian activity, together with up to 32 burials (both inhumation and cremation) dating to the late 3rd to early 5th century (Wilson 2002a, 185–205). Several graves were partially stone-lined and some contained evidence for coffins. A range of grave goods was recovered, including a copper-alloy anklet, armlets in copper-alloy, jet and antler, coins, ceramic jars and beakers, a glass bottle and a stone altar. One of the cremation burials contained fragments of a copper-alloy crossbow brooch.

In 1998, excavations at Hollow Banks Farm, just to the north-east of Catterick Bridge, identified a small cemetery of 14 or 15 graves, which dated to the mid-4th century (Eckardt *et al*. 2015). The burials were almost exclusively of males aged 20–35, many of whom were shown by stable isotope analysis to have migrated from continental Europe. A range of grave goods was recovered, including coins, glass and pottery vessels. The presence of crossbow brooches and belt-sets, which accompanied many of the burials, suggested that the individuals were either military officers or civilian administrators.

During the late 20th century, extensive industrial development in Brompton to the north of Bridge Road is likely to have had a severe impact on Dere Street and any associated archaeological remains. Little archaeological recording took place and the extent of any settlement in the area remains uncertain. The only finds of any note from the area were nine inhumations and two possible cremation burials, which were recorded at the Yorkshire Water depot in 1987 (Thubron 2002), and were apparently placed with reference to Dere Street. Sherds of pottery found in the cremation burials dated from the late 3rd or 4th century and it has been suggested that the whole group may be post-Roman in date. The total absence of grave goods means that, as a group, they stand out from the remainder of the Roman burials from the Catterick/Bainesse area (Thompson 2002).

THE BURIALS

The 35 burials excavated during the A1 scheme have been grouped below to reflect the development of *Cataractonium*. The earliest Roman period burials were associated with the *vicus* and comprised two inhumations and an urned cremation burial dated to the early 2nd

century. Later in the 2nd century, three neonates were interred in redundant defensive or boundary ditches. By the end of the 2nd century, a possible military cremation cemetery was in use at Brough Park (Field 172), which continued to be used into the early 3rd century. Three graves dating to the early to mid-3rd century included two neonates and the cremated remains of another individual. During the late 3rd and 4th centuries, 20 burials were located within and around the back plots of the northern suburb of *Cataractonium* at Brompton West (Fields 177/178). These included the remains of 19 inhumations and an elaborate cremation burial, which may have represented the occupants of the settlement plots in which they were interred.

BURIAL DURING THE EARLY 2ND CENTURY

The *vicus* emerged as a new settlement following the foundation of the Flavian fort during the AD80s both to the east of the fort site and on the north bank of the Swale, where a bridgehead defence, comprising a rampart and intervallum road, was constructed during the late 1st century (**17670**; Fig. 4.3). However, this defence was short lived and was quickly overlain by the rapidly expanding *vicus*.

The character of *Cataractonium* had already begun to develop into a more ordered and permanent settlement when three individuals were interred during the early 2nd century. The high plateau on the south bank of the Swale was still occupied by the Flavian fort, which was flanked to the east by a 'tangent type' vicus (Sommer 2006, 103) that contained a bath house and a possible mansio (Wilson, 2002b, 453). Beyond this, Dere Street approached the river crossing to the north. The remains of a perinate (Grave **21904**) had been interred towards the southern edge of the vicus.

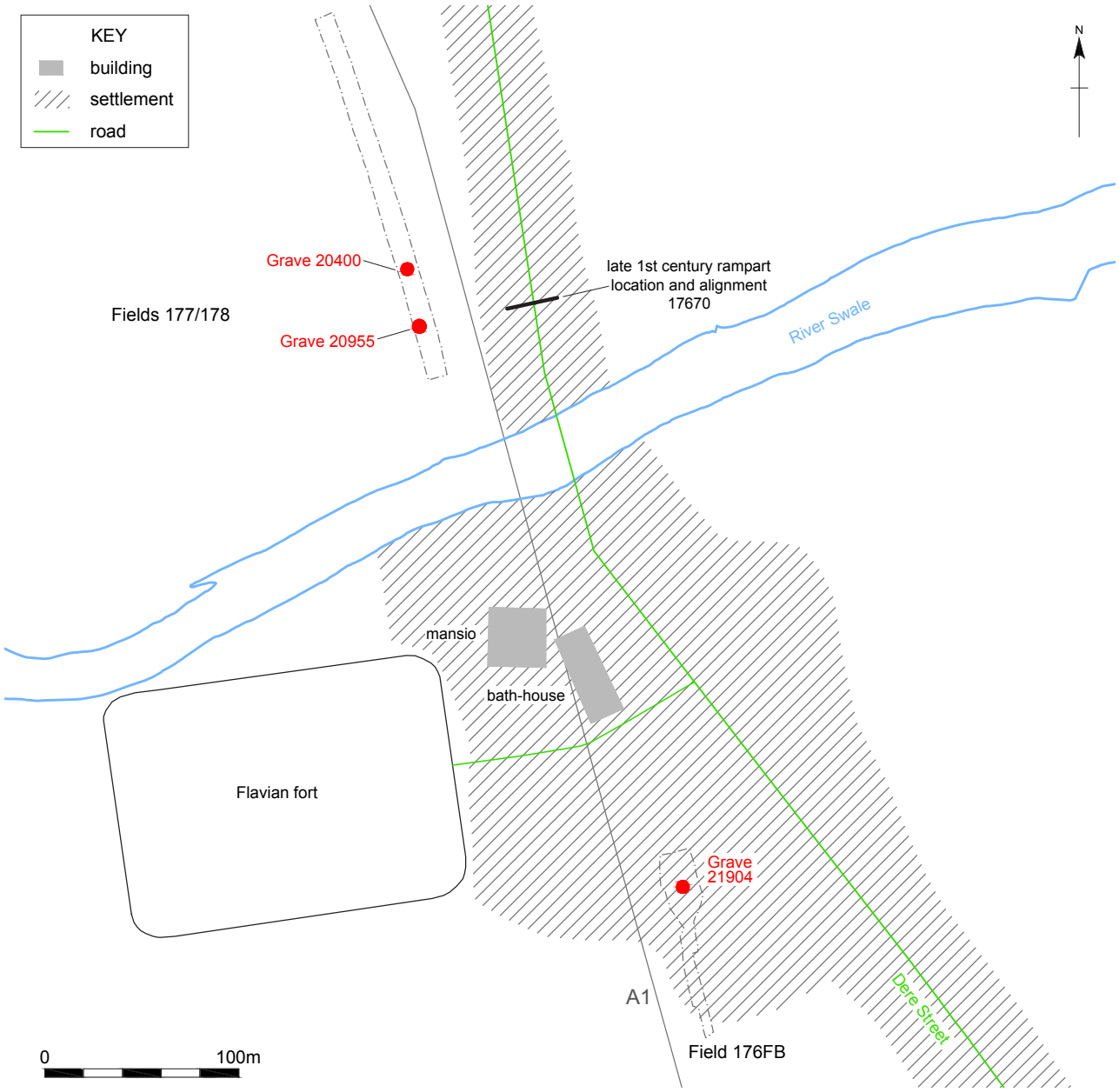


Figure 4.3: Cataractonium during the late 1st and early 2nd centuries and the location of the early 2nd-century burials.

The *vicus* continued on the north bank of the Swale, where timber buildings set within settlement plots lined both sides of Dere Street. To the rear of these plots, and on the west side of Dere Street, two individuals were interred, an inhumation (Grave **20955**) and a cremation burial (Grave **20400**).

Perinatal infant

Grave 21904, Fort Bridge

Grave **21904** had been cut into the foundation of a timber granary (**22282**), which was located in an area of the vicus that served as a supply depot during the late 1st and early 2nd century (Fig. 4.4). The perinate (Skeleton 21901) had been interred into the south side of the central foundation trench and it is possible that it had been buried beneath a standing building. It had been interred in a shallow grave and may have been laid crouched on the right side with the head to the south, although the few surviving bones made recognition of the position difficult. However, it is also conceivable that the burial was inserted following the removal of the overlying structure, suggesting it dates to the latter part of the period. Had the perinate been interred during the life of the granary, its subsequent removal may account for the disturbance and partial removal of this otherwise well-preserved skeleton.

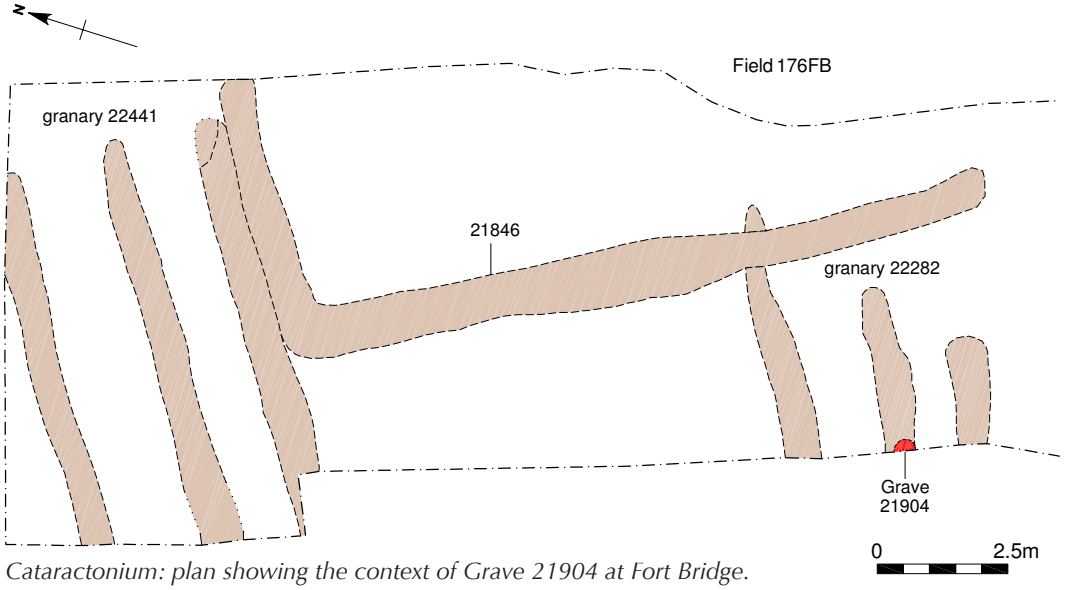


Figure 4.4: Cataractonium: plan showing the context of Grave 21904 at Fort Bridge.

Table 4.1: grave catalogue for Grave 21904, Fort Bridge.

Grave cut 21904	
Orientation	-
Max. dimensions	L: 0.33m, W: 0.33m, D:0.07m
Associated contexts	Grave fill 21905
Skeleton 21901	
Orientation	Head to S?
Posture	Crouched on right side?
Arm position	-
Sex	-
Age	Perinate, 40 weeks in utero to 1 month
Completeness	40%
Preservation	Very good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD80–224 (95.4%) (1864±25 BP, SUERC-77043/GU46285)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Hammerscale
Environmental	-
Interpretative date	Early 2nd century

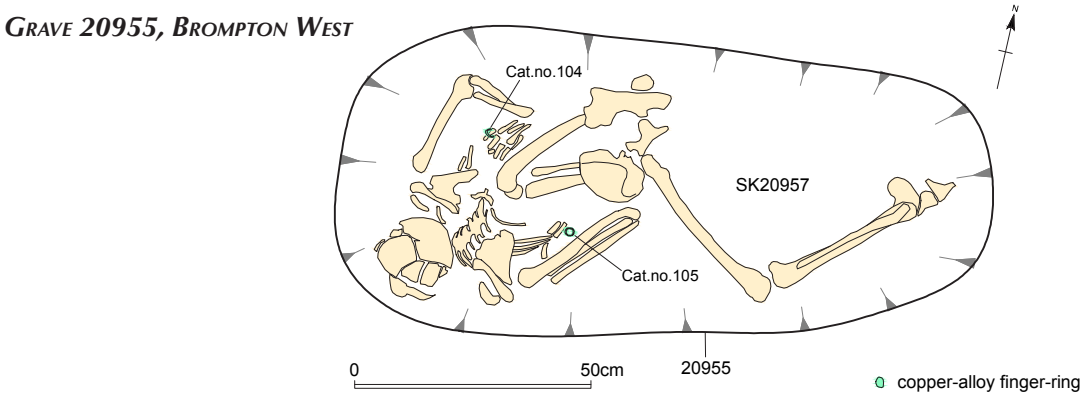


Figure 4.5: Cataractonium: plan of Grave 20955 at Brompton West.

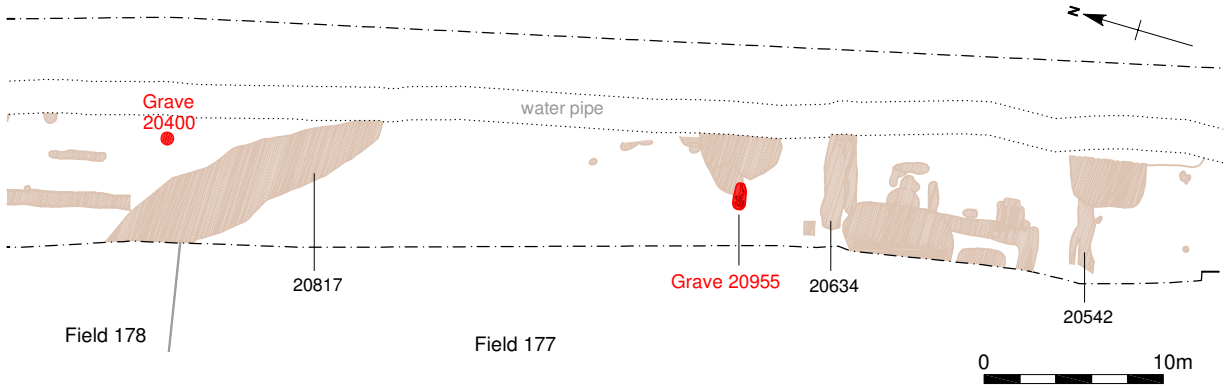


Figure 4.6: Cataractonium: plan showing the context of Graves 20955 and 20400 at Brompton West.

Grave **20955** (Fig. 4.5) was located within an open area to the rear of a plot defined by ditches **20542** and **20634**, which represented the rear of the settlement fronting Dere Street to the east (Fig. 4.6). It is considered likely that the burial had occurred prior to construction of the Antonine defences later in the 2nd century, which enclosed the vicus and the location of Grave **20955**.

The position of Skeleton 20957 was unusual (Fig. 4.7). The individual lay prone with the right leg and both arms tightly flexed beneath the torso. The palm of the right hand lay against the base of the grave. The individual had been interred wearing a finger-ring on the little finger of the right hand (Cat. no. 104) and another on the ring finger of the left hand (Cat. no. 105; Fig. 4.8). The skeleton displayed possible evidence for African or mixed ancestry indicated by facial and other skeletal features (see Chapter 6).

Figure 4.7: Cataractonium: Skeleton 20957 under excavation in Grave 20955, viewed from the south-west.

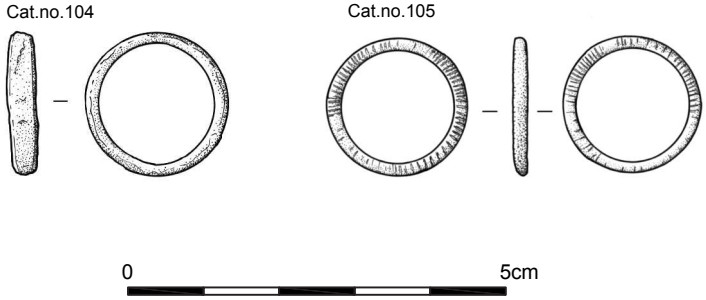


Figure 4.8: Cataractonium: two finger-rings worn by the occupant of Grave 20955 at Fort Bridge.

Table 4.2: grave catalogue for Grave 20955, Brompton West.

Grave cut 20955	
Orientation	ENE-WSW
Max. dimensions	L: 1.7m, W: 0.94m, D: 0.73m
Associated contexts	Grave fill 20956
Skeleton 20957	
Orientation	Head to WSW
Posture	Prone, head back and facing left, left leg semi-flexed, right leg tightly flexed beneath torso
Arm position	Both arms flexed beneath the torso, with the palm of the right hand against the base of the grave
Sex	Male
Age	36-45
Completeness	90%
Preservation	Moderate
Dental pathology	18 tooth positions, 28 teeth present 1/18 teeth lost ante-mortem 2/18 teeth not present, 22/28 teeth with calculus flecks to moderate deposits, 2 caries on 2/28 teeth, chips on 4/28 teeth, slight periodontal disease.
Pathology	Healed fracture to the distal shaft of the left fibula the fracture appeared to be oblique, and travelled anteriorly-superiorly to posterior-inferiorly, with slight overlap and medial displacement of the inferior fragment. The fracture was well remodelled with a smooth callus. Bilateral calcaneus secundarius, small crescent-shaped lesions, were present on the anterior-medial borders of the anterior calcaneal facets, the surface of the lesion presented a slightly irregular topography but did not appear to be reactive or porotic. The second or third lumbar vertebrae had a partial spondylolysis. The fractured surfaces were irregular with well-defined margins, the lamina and the vertebral facet could be fitted back together perfectly. The right side of the vertebrae had been damaged post-mortem, but there were no signs of a fracture through the lamina in the same place as the left. An enigmatic lesion was present on the buccal surface of the right side of the mandible; a sub oval lesion with thinned, sharp margins measured 13.2mm ml by 9.6mm is within the lesion was an area of sub oval bone attached to the outer margins of the lesion by tiny islands of unaffected bone creating a trough of resorbed bone at the margins of the lesion. On close inspection, the internal 'island 'of bone was slightly vascularised. Possible trauma, however there is no evidence of displacement of the bone, potentially associated with the attachment of the buccinator muscle. Vascularised lamellar bone was present on the endocranial surface of the occipital, within the right transverse sulcus. A spherical lesion was present on the posterior, distal surface of the shaft of the left femur, located at the insertion of the medial head of the gastrocnemius, the lesion had sharp, well-defined margins and an irregular base.
Stature (mm)	1563.7±35.3 (African) 1597.5±29.9 (Caucasian)
C14 date	cal AD81–251 (95.4%) (1836±34 BP, SUERC-75345/GU45149)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 104 copper-alloy finger-ring worn on little finger of right hand; Cat. no. 105 copper-alloy finger-ring worn on ring finger of left hand
Other finds	Pottery sherds x2 (Fabric GRB2); pottery sherds x2 (Fabric MVER WH); pottery sherd x1 (Fabric OAA4); glass; iron nails x3; iron hooked rod?; hammerscale; fired clay
Environmental	Charcoal; CPR; animal bone (sheep/goat, pig)
Interpretative date	Early 2nd century

Urned cremation burial

Grave 20400, Brompton West

Grave **20400** was located approximately 30m to the north of Grave **20955** and in a similar setting (Fig. 4.6). However, in this instance the grave contained the remains of an urned cremation (Fig 4.9). The grave was located beside a trackway (**20817**) in an open part of the settlement, to the south of a ditch-defined back plot.

The urn had been severely truncated by medieval ploughing, which had resulted in only the base of the cinerary urn (a BB1 jar, Cat. no. 43; Fig. 4.10) and lower portion of the cremation deposit (**20405**) surviving. The urn may have had a lid, as a sherd from a greyware example was recovered from the cremation deposit (GRB6, Cat. no. 44). The urn provided a *terminus post quem* of AD120 for the burial.

Figure 4.9: Cataractonium: cremation burial, Grave 20400, viewed from the south.

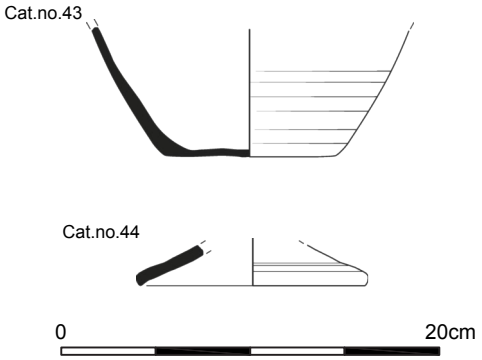


Figure 4.10: Cataractonium: cinerary urn and lid from Grave 20400 at Brompton West.

Table 4.3: grave catalogue for Grave 20400, Brompton West.

Grave cut 20400	
Shape	Sub-circular
Max. dimensions	L: 0.18m, W: 0.12m, D: 0.06m
Associated contexts	Grave fill 20404; cremation deposit 20405
Cremation deposit 20405	
Weight (g)	257.1
Largest fragment (mm)	42.6
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White and grey
Age	16+
Sex	-
C14 date	cal AD74–234 (95.4%) (1863±34 BP, SUERC-75354/GU45156)
Grave contents	
Cinerary urn	Cat. no. 43 black-burnished ware (Fabric BB1) jar dated to c.AD120–200 with Cat. no. 44 plain rim lid (Fabric GRB6)
Grave goods	-
Pyre goods	-
Other finds	Hammerscale
Environmental	-
Interpretative date	Early 2nd century

BURIAL DURING THE LATE 2ND CENTURY

By the mid-2nd century, the *vicus* had been enclosed, probably on both sides of the River Swale, with the construction of ditch and rampart defences in association with a new fort established during the Antonine period (Fig. 4.11). The newly defended *vicus* on the south riverbank began to mature around a grid street plan that had its origins at this time (Ross and Ross forthcoming).

The northern suburb of the settlement on the opposing bank of the Swale developed in a similar manner, with a series of side streets aligned perpendicular to Dere Street that divided building plots from one another. The settlement in this area fronted Dere Street but did not extend to the peripheral parts of the defended area. A second ditch to the north of the defences may have served to define the outer boundary of the settlement. By the end of the 2nd century, both the Antonine defences and the outer boundary ditch had become redundant and the ditches had been infilled (Ross and Ross forthcoming). It was at this time that three perinates/neonates (Graves **18024**, **21026** and **20200**) were interred into the upper fills of the ditches.

The area to the south of the defended *vicus* was also occupied during the 2nd century, with extramural settlement fronting both Dere Street and a possible military road that connected the area outside the southern gate of the fort with Dere Street to the south. Later, and towards the end of the 2nd century, a possible

roadside cremation cemetery was in use within this road corridor to the south-east of the settlement. Six cremation burials that formed part of the cemetery (Graves **6729**, **6723**, **6783**, **6785**, **6782** and **6790**) were excavated at Brough Park (Fig. 4.11).

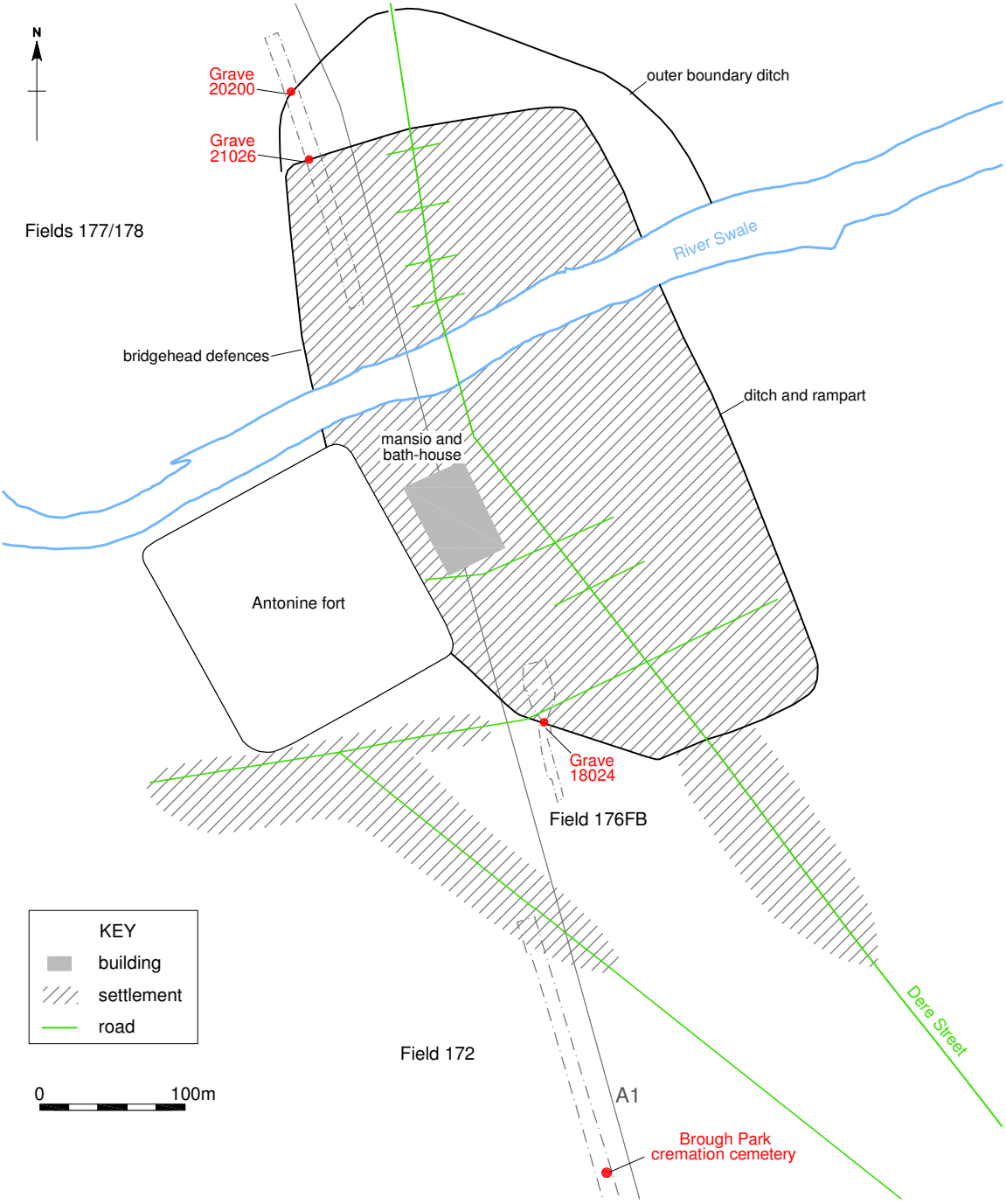


Figure 4.11: Cataractonium during the 2nd century and the location of the associated graves and burial areas.

Perinatal/neonatal burials

Grave 18024, Fort Bridge

Grave **18024** was located at the south-western limit of the settlement on the south side of the Swale (Fig. 4.11). It contained the remains of a perinate (Skeleton 18026), which had been interred in an infilled ditch that may have formed part of the Antonine defences where it enclosed the southern boundary of the *vicus*. Little could be determined of the body position of the perinate, although the head appeared to have been placed to the north-east.

The dating of the burial to no earlier than the late 2nd century is based on the chronology of the underlying stratigraphic sequence, which indicates the underlying ditch fills were deposited after AD160. The radiocarbon date of 21 cal BC to cal AD124 (95.4%; SUERC-77038) returned for Skelton 18026 is at odds with that of the underlying stratigraphic sequence, suggesting that the individual had either been curated for over 40 years before burial, or that the radiocarbon date is inaccurate.

Table 4.4: grave catalogue for Grave 18024, Fort Bridge.

Grave cut 18024	
Orientation	NE-SW
Max. dimensions	L: 0.26m, W: 0.20m, D: 0.03m
Associated contexts	Grave fill 18025
Skeleton 18026	
Orientation	Head to NE?
Posture	-
Arm position	-
Sex	-
Age	Perinate, 40 weeks in utero
Completeness	60%
Preservation	Very good
Dental pathology	0 tooth positions, 4 teeth erupting
Pathology	-
Stature (mm)	-
C14 date	21 cal BC to cal AD124 (95.4%) (1952±25 BP, SUERC-77038/GU46283)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Hammerscale; magnetic matter
Environmental	-
Interpretative date	Late 2nd century

Grave 21026, Brompton West

Grave **21026** (Fig. 4.12) was located in the northern suburb of *Cataractonium* and had been cut in the centre of a ditch (**20348**) that had formed part of the northern circuit of the Antonine defences (Fig. 4.13). The neonate (Skeleton 20188) had been interred at the northern periphery of contemporary settlement.

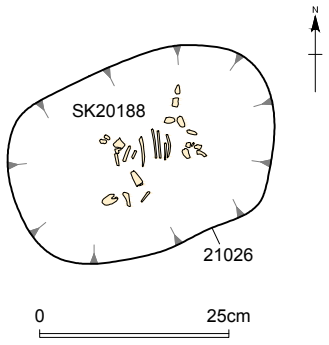


Figure 4.12 (left): Cataractonium: plan of Grave 21026 at Brompton West.

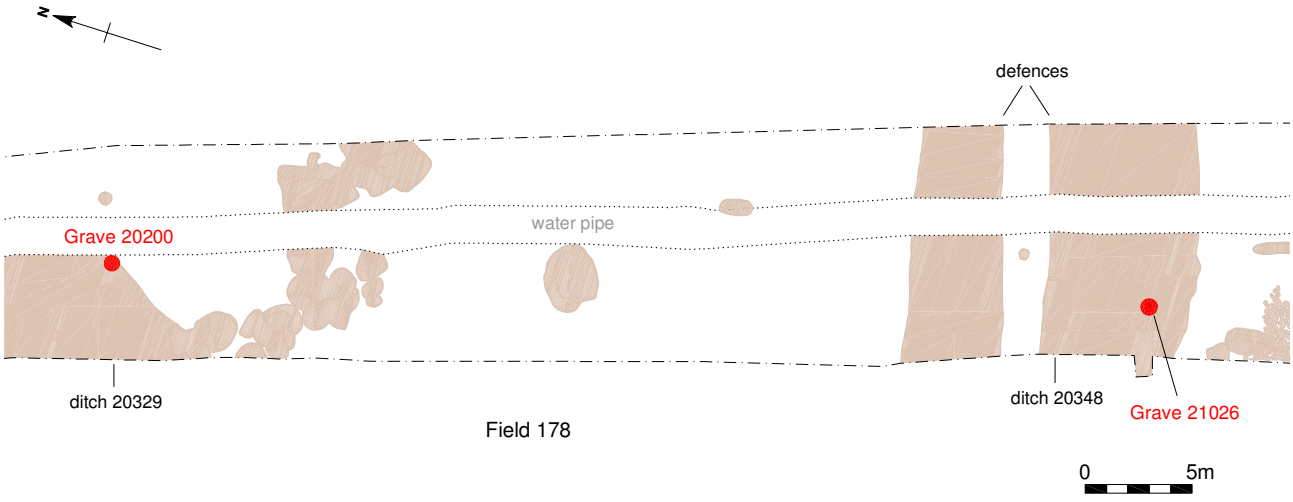


Figure 4.13: Cataractonium: plan showing the context of Graves 21026 and 20200 at Brompton West.

Table 4.5: grave catalogue for Grave 21026, Brompton West.

Grave cut 21026	
Orientation	-
Max. dimensions	L: 0.13m, W: 0.09m, D: 0.04m
Associated contexts	Grave fill 20189
Skeleton 20188	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	Neonate, birth to 1 month
Completeness	40%
Preservation	Good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD126–260 (85.4%), cal AD280–325 (10.0%) (1811±32 BP, SUERC-76674/GU45971)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	Charcoal; CPR; animal bone (sheep/goat); unidentified bone
Interpretative date	Late 2nd century

Table 4.6: grave catalogue for Grave 20200, Brompton West.

Grave cut 20200	
Orientation	-
Max. dimensions	-
Associated contexts	Grave fill 20202
Skeleton 20201	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	Perinate, birth to 1 month
Completeness	30%
Preservation	Very good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	Late 2nd century

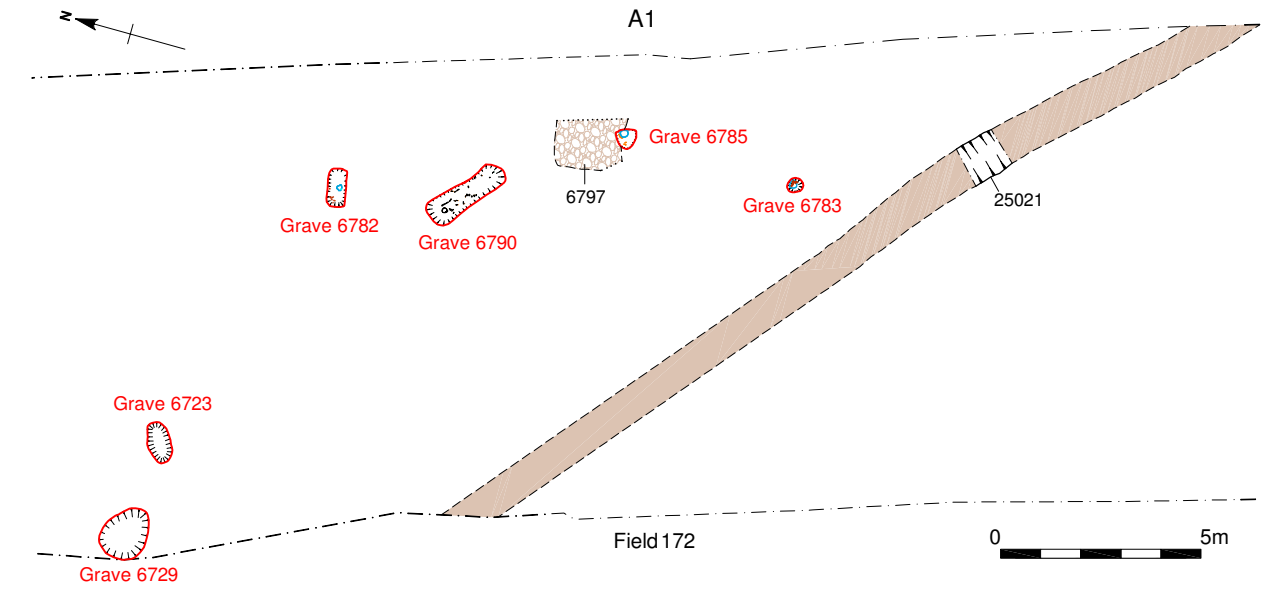


Figure 4.14: Cataractonium: plan of Brough Park cremation cemetery.

Grave 20200, Brompton West

Grave **20200** had been cut into the upper fill of a ditch (**20329**) that seemed to define a northern outer boundary of the *vicus* at a time when the core of the settlement was enclosed by the Antonine defences (Fig. 4.13). It contained a perinate (Skeleton 20201), which had been interred at a distance of c.50m to the north of settlement.

Brough Park (Field 172) cremation cemetery

The cemetery exposed at Brough Park contained six cremation burials, including at least one bustum–type burial (Grave **6790**; Fig. 4.14). It was located at the south-west edge of a corridor defined by parallel ditches, which was occupied centrally by a road that led to the southern gate of the Antonine fort, located to the north-west (Fig. 4.11). Part of the ditch (25021) defining this corridor was excavated adjacent to the cemetery, and to the north part of an area of settlement was aligned to the road. The cemetery remained in use into the early 3rd century, although all of the burials are discussed together here, as they represent a continuation of a funerary tradition that had its origins in the late 2nd century.

The natural geological deposit into which the funerary features had been cut had an uneven surface due to areas of outcropping gravel, with small areas of disturbed archaeological deposits that contained charcoal likely to have been derived from funerary activity. In the 3rd century, and probably after the cemetery had become disused, a new series of ditches aligned from north-northwest to south-southeast, broadly parallel to Dere Street, was laid out across the area, suggesting that the road running to the fort gate had fallen into disuse. A soil horizon (**25023**; not illustrated) developed that sealed the cemetery features, and included fragments of charcoal and calcined bone. The pottery assemblage from this horizon provided a *terminus post quem* of AD270 for its formation, indicating the cemetery fell out of use by this time.

Grave 6729, Brough Park

Grave **6729** was located at the north-western edge of the group of burials (Fig. 4.14) and survived as a shallow oval pit. The cremated remains were distributed evenly throughout the single fill (**6730**) and comprised approximately 20% of the expected quantity of bone from an average adult cremation, suggesting the remains represented a token burial. The cremation deposit contained a number of finds, including sherds from a BB1 jar that dated to the mid- to late 2nd century (Cat. no. 45; Fig. 4.15), and 41 hobnails, all of which had been burnt and presumably represented pyre goods.

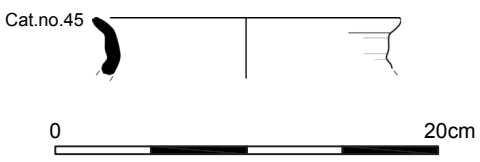


Figure 4.15: Cataractonium: ceramic vessel used as a pyre good from Grave 6729 at Brough Park.

Table 4.7: grave catalogue for Grave 6729, Brough Park.

Grave cut 6729	
Shape	Irregular oval
Max. dimensions	L: 1.6m, W: 1.1m, D: 0.26m
Associated contexts	Grave backfill 6730, which includes cremation deposit
Cremation deposit 6730	
Weight (g)	314.5
Largest fragment (mm)	30.5
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White/blue grey/black
Age	-
Sex	-
C14 date	cal AD132–333 (95.4%) (1789±34 BP, SUERC-75336/GU45143)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 45 pottery sherds x7 from a black-burnished ware (Fabric BB1) jar dated to the mid- to late 2nd century AD; Cat. no. 413 nailed footwear represented by x41 (minimum) hobnails that had been burnt on the pyre
Other finds	Pottery sherd x1 (Fabric NV CC); samian sherd x1 (East Gaulish, form unidentified); flint debitage x1; fired clay; mortar; magnetic matter
Environmental	Charcoal; CPR
Interpretative date	Early 3rd century

Table 4.8: grave catalogue for Grave 6723, Brough Park.

Grave cut 6723	
Shape	Oval
Max. dimensions	L: 1.13m, W: 0.56m, D: 0.3m
Associated contexts	Secondary deposits of cremated human bone and pyre debris 6724 and 6725
Cremation deposit 6726	
Weight (g)	1390.7
Largest fragment (mm)	54.7
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White, some grey internal surfaces
Age	Adult, 18 years+
Sex	-
C14 date	cal AD135–345 (95.4%) (1777±34 BP, SUERC-75335/GU45142)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 412 nailed footwear represented by x35 (minimum); Cat. no. 59 copper-alloy coin (minted AD 140-143)
Other finds	Samian sherds x2 (East Gaulish made in Rheinzebern, form unidentified); mortar; fired clay; magnetic matter
Environmental	Charcoal; CPR; unidentified bone
Interpretative date	Late 2nd century

Grave 6723, Brough Park

Grave **6723** was located towards the north-west edge of the grave group (Fig. 4.14), adjacent to Grave **6729**. The cremation deposit (**6726**) was concentrated towards the western end of a relatively large pit (Fig. 4.16) and appeared to have been buried within an organic vessel or bag. It comprised approximately 85% of the expected quantity of human bone. Following deposition of the cremated individual, the pit had been filled by two deposits of pyre debris (**6724** and **6725**) comprising charcoal and additional cremated bone. The primary deposit (**6724**) also contained quantities of fired clay. Both the pyre debris and the concentrated cremation deposit contained an assemblage of finds that may have represented pyre goods, including hobnails (the remains of nailed footwear) and a coin (Cat. no. 59; Fig. 4.17) dating to AD140–143.

Figure 4.16: Cataractonium: cremation burial, Grave 6723, viewed from the south-east.

Figure 4.17: Cataractonium: a coin recovered from Grave 6723 at Brough Park.

Grave 6783, Brough Park

An urned cremation (Grave **6783**) was located 1.4m to the north-east of the boundary ditch that defined the road corridor and lay in a regularly shaped shallow pit (Fig. 4.14). The cinerary urn, a BB1 plain medium necked jar dating to the mid- to late 2nd century (Cat. no. 46; Fig. 4.18), contained c.25% of the expected weight of human bone from the single individual represented. After deposition of the urn, the pit had been backfilled with redeposited subsoil rather than pyre debris. The origin of an iron double-spiked loop (Cat. no. 424) recovered from the backfill was uncertain.

Table 4.9: grave catalogue for Grave 6783, Brough Park.

Grave cut 6783	
Shape	Sub-circular
Max. dimensions	L: 0.4m, W: 0.35m, D: 0.11m
Associated contexts	Burial pit backfill 6784; contents of urn 6788
Cremation deposit 6788	
Weight (g)	435.1
Largest fragment (mm)	42.3
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White/blue grey/dark grey
Age	-
Sex	-
C14 date	cal AD53–225 (95.4%) (1888±34 BP, SUERC-75337/GU45144)
Grave contents	
Cinerary urn	Context 6787 (jar): Cat. no. 46 BB1 medium necked jar dated to the mid-2nd century or late 2nd century AD
Grave goods	-
Pyre goods	Cat. no. 424 iron double spiked loop
Other finds	Hammerscale; magnetic matter
Environmental	Charcoal; CPR
Interpretative date	Late 2nd to early 3rd century

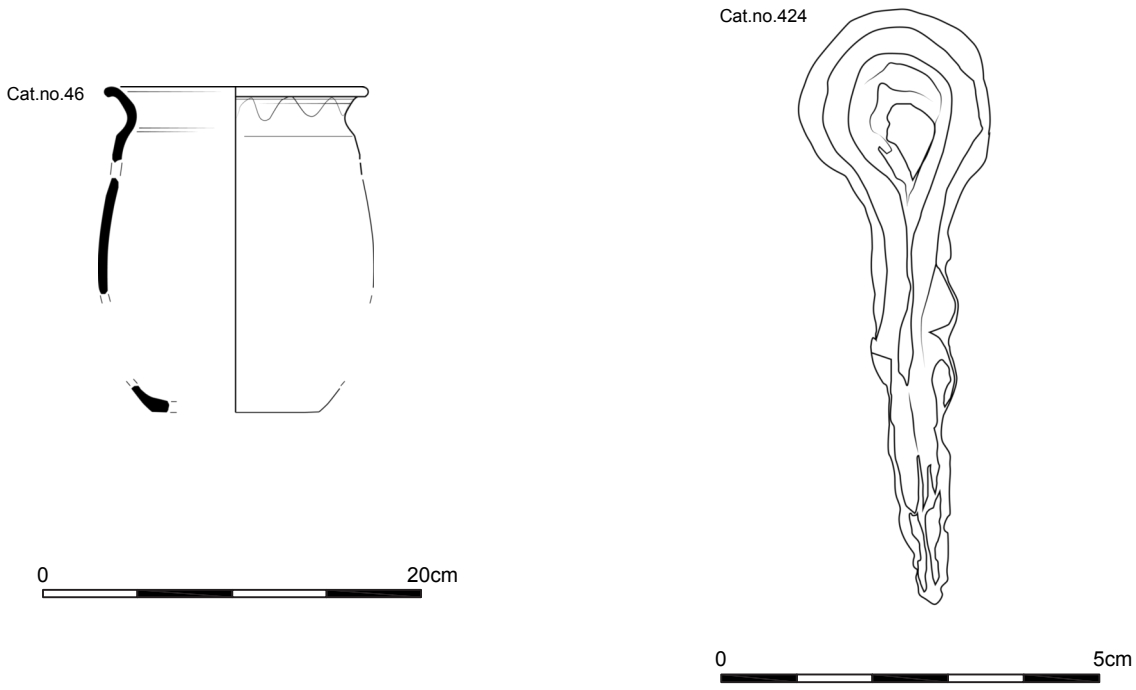


Figure 4.18: Cataractonium: cinerary urn and an iron double spiked loop from Grave 6783 at Brough Park.

Grave 6785, Brough Park

Grave **6785** contained an urned cremation burial that had been interred 4m to the north of Grave **6783** (Fig. 4.14), with which it bore some similarities, including the use of a BB1 plain medium necked jar (Cat. no. 47; Fig. 4.19) for the cinerary urn. The urn contained the remains of two individuals. This could be indicative of either use of a centralised or communal pyre site (*ustrinum*), or that two individuals had been cremated on a single pyre. A curved iron nail (Cat. no. 422) and hobnailed footwear served as pyre goods.

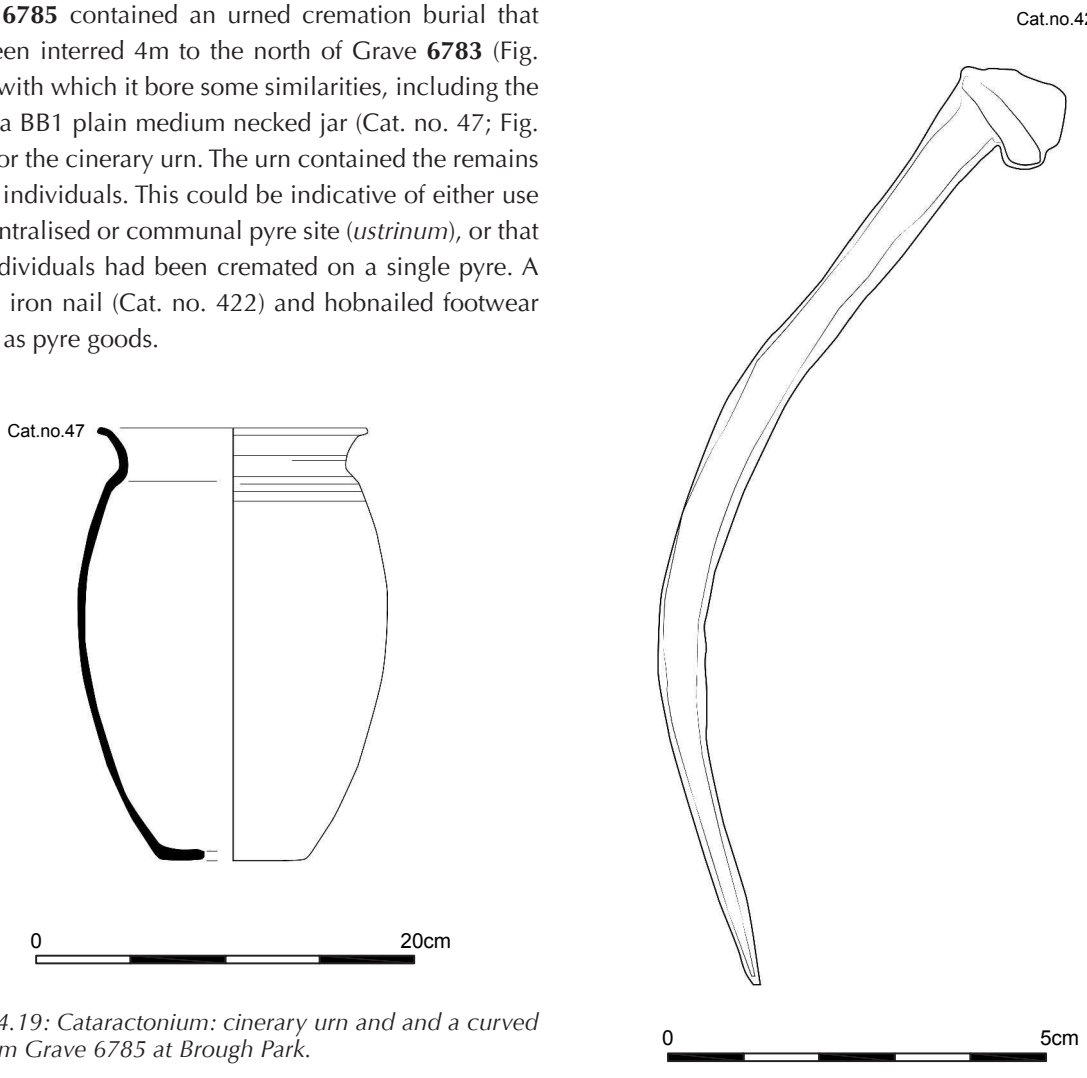


Figure 4.19: Cataractonium: cinerary urn and and a curved nail from Grave 6785 at Brough Park.

Table 4.10: grave catalogue for Grave 6785, Brough Park.

Grave cut 6785	
Shape	Sub-rectangular
Max. dimensions	L: 0.45m, W: 0.45m, D: 0.15m
Associated contexts	Burial pit backfill 6786; contents of urn 6795
Cremation deposit 6795	
Weight (g)	532
Largest fragment (mm)	37
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White to grey/black
Age	-
Sex	-
C14 date	cal AD123–259 (85.9%), cal AD281–324 (8.0%), cal AD89–102 (1.5%) (1817±34 BP, SUERC-75334/GU45141)
Grave contents	
Cinerary urn	Context 6794: Cat. no. 47 black-burnished ware (Fabric BB1) plain medium necked jar dated to the mid- to late 2nd century AD+?
Grave goods	-
Pyre goods	Cat. no. 415 nailed footwear represented by x7 (minimum) hobnails; Cat. no. 422 iron nail
Other finds	Samian sherd x1 (Central Gaulish, form unidentified); RF11411, RF11410 iron nails x2; flint flake x1; flint debitage x1
Environmental	Charcoal; CPR
Interpretative date	Late 2nd to early 3rd century

Grave 6782, Brough Park

Grave **6782** was located 7m to the south-west of Grave **6723** (Fig. 4.14). It was a shallow, sub-rectangular pit with gently sloping sides that had been discoloured by heat towards the western end (deposit **6779**), indicating intense in situ burning (Fig. 4.20). A primary deposit of charcoal and burnt bone (**6796**) was overlain by a thicker more mixed deposit (**6780**) of charcoal, burnt bone and fired clay. The human bone was unevenly distributed

Table 4.11: grave catalogue for Grave 6782, Brough Park.

Grave cut 6782	
Shape	Sub-rectangular
Max. dimensions	L: 0.96m, W: 0.54m, D: 0.23m
Associated contexts	6779 fired clay; pyre debris 6796 and 6780; pit backfill 6781
Cremation deposit 6780	
Weight (g)	150
Largest fragment (mm)	33.1
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White/blue grey/dark grey
Age	Juvenile, 9-12 years
Sex	-
C14 date	-
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 48 pottery sherds x96 from a small black-burnished ware (Fabric BB1) jar dated to the mid- to late 2nd century AD; Cat. no. 60 copper-alloy coin (minted AD 145-161); Cat. no. 414 nailed footwear represented by x7 (minimum) hobnails
Other finds	Fired clay; magnetic matter
Environmental	Charcoal; CPR
Interpretative date	Late 2nd to early 3rd century

throughout deposit **6780**, which contained the associated pyre goods. The pottery vessel (Cat. no. 48; Fig. 4.21) was burnt and contained no more cremated bone than the surrounding fill, suggesting that it had been placed on the pyre rather than acted as a cinerary urn. Other pyre goods included hobnailed footwear and a coin dating to AD145–161 (Cat. no. 60). The burnt sides of the grave might suggest a *bustum*, its small size possibly corresponding to that of the juvenile represented by the cremated remains. However, it did not conform to the standards set by KcKinley (2017) for *bustum*-type burials. The distribution of the fired clay within the fill suggested post-burning disturbance, perhaps during raking through the pyre deposits to collect some of the bone for burial elsewhere, as suggested by the low bone weight remaining in the feature (cf. McKinley 2017, 260).

Figure 4.20: Cataractonium: cremation burial, Grave 6782, viewed from the east.

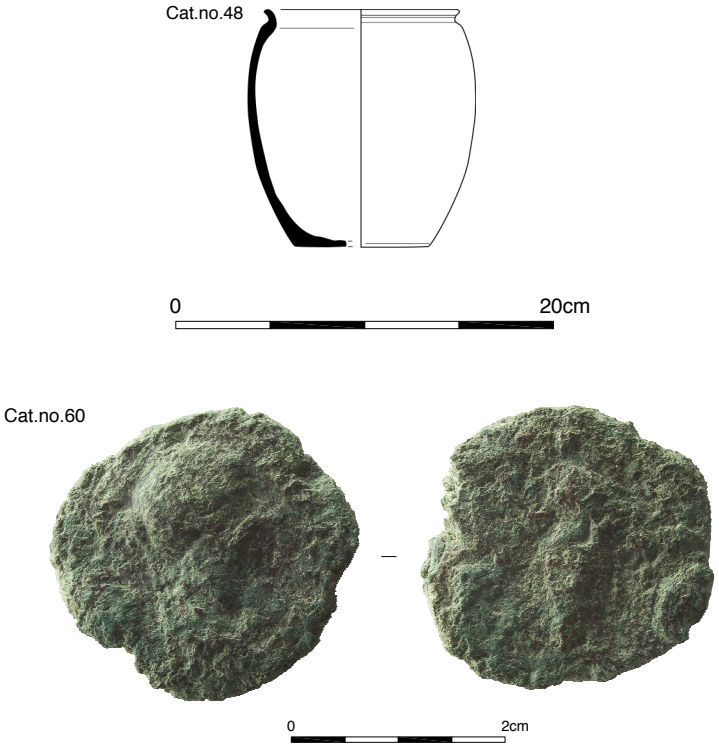


Figure 4.21: Cataractonium: pyre goods recovered from Grave 6782 at Brough Park.

Grave 6790, Brough Park

This *bustum*-type burial (Grave **6790**) was located 2m to the south-west of Grave **6782** and was aligned parallel to ditch **25021**. The grave was sub-rectangular, measuring 2.1m long, 0.7m wide and 0.5m deep with a relatively flat base (Figs 4.22 and 4.23). Since the presence of a *bustum*-type burial was recognised in Grave **6790** from the outset, a sampling strategy was implemented to recover spatial detail of the human remains and pyre goods within the burial deposits, along with any variation in the combustion process to be able to examine the cremation process (cf. Thompson *et al.* 2016). Excavation and sampling broadly followed the methodology outlined by McKinley (2017, 279–81) and are detailed below.

Context numbers were allocated to five successive fills (**25004**, **25005**, **25003**, **6792** and **6791**), a discrete concentration of charcoal (**25009**) within fill **25005** that was considered to represent a single burnt timber during excavation, and to the fired subsoil (**25007**) around the edges of the pit.

The fills of the grave were 100% whole-soil sampled. For the more extensive deposits (**6791**, **25004**, **25005** and **25007**), the grave was divided into eight sectors (AA-AH), four on either side of a centre-line running north-south along the long axis of the pit (Fig. 4.24). The sectors were labelled from the south-east corner (sample AA) in an anti-clockwise direction, with samples from each fill being recorded accordingly. For example, for each of the fills, sample AG was the third from the north on the west side. For fills **25003** and **6792**, which only occurred in the north half of the pit, the deposits were sub-divided into only four samples (AA-AD), running anti-clockwise with sample AA at the south-east corner. The fired clay (**25007**) around the sides of the pit (**25007**) was also 100% sampled, as some bone fragments and charcoal had clearly been incorporated as a result of biological activity subsequent to burial.

Finds and larger bone fragments in the soil samples were removed during processing to reduce fragmentation and erosion that may result from the sieving process. These

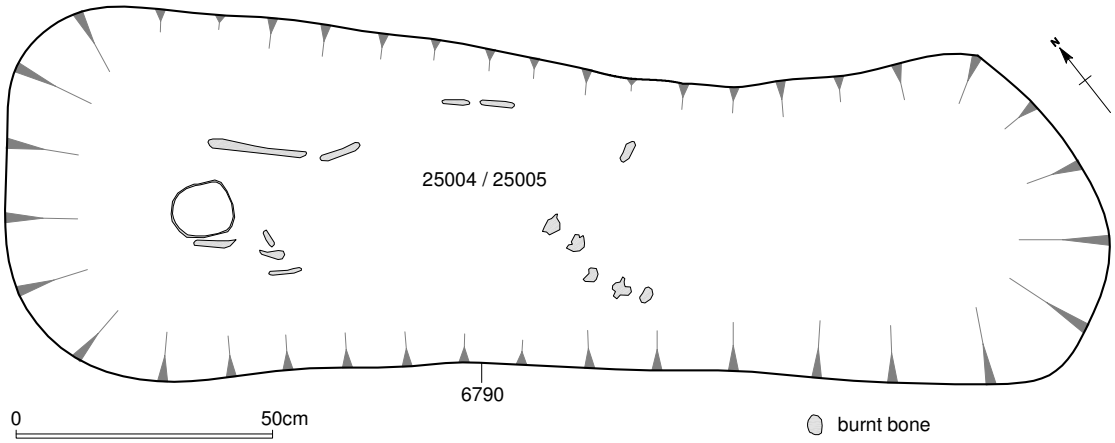


Figure 4.22: Cataractonium: plan of bustum-type burial (Grave 6790) at Brough Park.

Figure 4.23: Cataractonium: bustum-type burial (Grave 6790) viewed from the north.

were subsequently restored to collections of material sorted from the residues. Finds recovered from the samples were recorded with the sample number in order to retain their spatial location within their respective contexts, despite not having been three-dimensionally recorded during excavation.

Distribution of the remains within Grave 6790

Analysis of the human remains, and their distribution, indicated that primary fill **25004** contained the remains of an individual cremated in situ. The cremated bones appeared to have fallen into the pit in approximately anatomically correct order, although some fragments were out of place. A mixture of bones from at least four other individuals was included within the subsequent fills, and no specific spatial pattern in the distribution of these remains could be determined. The primary fill contained 116 hobnails concentrated in the north-east part of the deposit (in the leg/foot area of the body), a fragment of glass and some nails, but was otherwise devoid of finds.

Above this level, the understanding of the finds distribution is more complex. Seven fragments from a copper-alloy bracelet were recovered (see Chapter 8), though they came from two separate, non-consecutive deposits above the primary fill. Three fragments (Cat. no. 401; RF11421, RF14523 and RF14527) and a copper-alloy coin (Cat. no. 61) were recovered from near the south-east corner of deposit **25005**, while another bracelet fragment came from near its south-west corner (RF14526; see Fig. 4.25). The remaining three fragments (RF14522, RF14528 and RF14529) were recovered from the north end of the grave in fill **6792**. This suggests that the material found within the grave above the level of the primary fill **25004** had been added after the initial cremation event. The contrasting composition of the pyre goods (none in the primary deposit) and the multiple individuals present amongst the cremated bone assemblage (as opposed to the single, apparently undisturbed individual in the primary fill) raises the possibility that all the material within the upper fills had been brought from another source, possibly a nearby *ustrinum*, and deliberately deposited into the *bustum* pit. The presence of bog beans (*Menyanthes trifoliate*) in many of the fills of the *bustum*-type burial, including primary fill **25004**, suggests peat was used to line both this and other nearby pyres (see Baines, Chapter 9).

Table 4.12: grave catalogue for Grave 6790, Brough Park.

Grave cut 6790	
Shape	Sub-rectangular, aligned NW-SE
Max. dimensions	L: 2.14m, W: 0.7m, D: 0.5m
Associated contexts	Burial pit backfill 6791 and 6792; heat-affected subsoil 6793; burial pit backfill 25003; primary cremation remains 25004; secondary cremation remains 25005; primary cremation remains 25006; heat-affected subsoil 25007; burial pit backfill 25008; secondary cremation remains 25009
Cremation deposit 25004–25005 and remaining deposits	
Weight (g)	6532.7
Largest fragment (mm)	96.1
Identified elements	Cremation deposit 25004: skull, axial, upper limb, lower limb, long bone
	Cremation deposit 25005 and other deposits: skull, axial, upper limb, lower limb, long bone
Colour	Cremation deposit 25004: black
	Cremation deposit 25005 and other deposits: white to black, context 6791 some fragments black to unburnt, 25004 generally black
Age	3x adults, 18+; 1x older juvenile, 7-12; 1x younger juvenile,1-6
Sex	One possible female
C14 date	Cremation deposit 25004: cal AD126–264 (82.0%), cal AD275–330 (13.4%) (1808±34 BP, SUERC-75333/GU45139)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 416 hobnailed footwear; galliform (chicken) bone
Other finds	· Final backfill (Context 6791): RF11407, RF11414, RF11415, RF11416 iron nails x4; glass fragments x2; iron tacks; hobnails; iron small nails; miscellaneous iron fragments; magnetic matter; industrial waste; fired clay
	· Quaternary fill (Context 6792): RF14524 copper-alloy fragments; RF11417 iron nail shaft; RF11408 iron nail head; RF14524, Cat. no. 423 copper-alloy tacks x4; medium iron nail; magnetic matter
	· Tertiary fill (Context 25003): Cat. no. 49 pottery sherds x2 from a jar (Fabric BB1); pottery sherds x 9 (BB1); samian flakes x3 (East Gaulish Dr.33 cup); Cat. no. 429 copper-alloy fragment; long iron nails x2; RF13685 hobnails x3; small and medium nails; magnetic matter; fired clay; industrial waste; Cat. no. 428 fossil crinoid stem
	· Secondary fill (Context 25005 - also containing 25009): Cat. no. 61 copper-alloy coin (minted AD 71); RF14530, RF14554 copper-alloy fragments; RF11419 long iron nail; RF11418 long iron nail; RF15066 hobnails x71 (minimum); magnetic matter; fired clay
	· Primary fill (Context 25004): glass x1; magnetic matter; fired clay
	· Fired sides of pit (Context 25007): hobnails x2; iron nail x1; miscellaneous iron fragments; fired clay; magnetic matter; hammerscale; clinker
	· NOTE: fragments from a single copper-alloy bracelet (Cat. no. 401) were found dispersed in the secondary fill (Context 25005: RF11421, RF14523, RF14526, RF14527) and in the quaternary fill (Context 6792: RF14528, RF14529, RF14522)
Environmental	*Menyanthes trifoliate* (39)—Bogbeans, likely the remains of peat lining the funeral pyre; Charcoal from 6791, 6792, 25004, 25007, 25009; CPR from 6791, 6792 25003, 25004, 25005, 25007; animal bone (pig) from 6791
Interpretative date	Early 3rd century

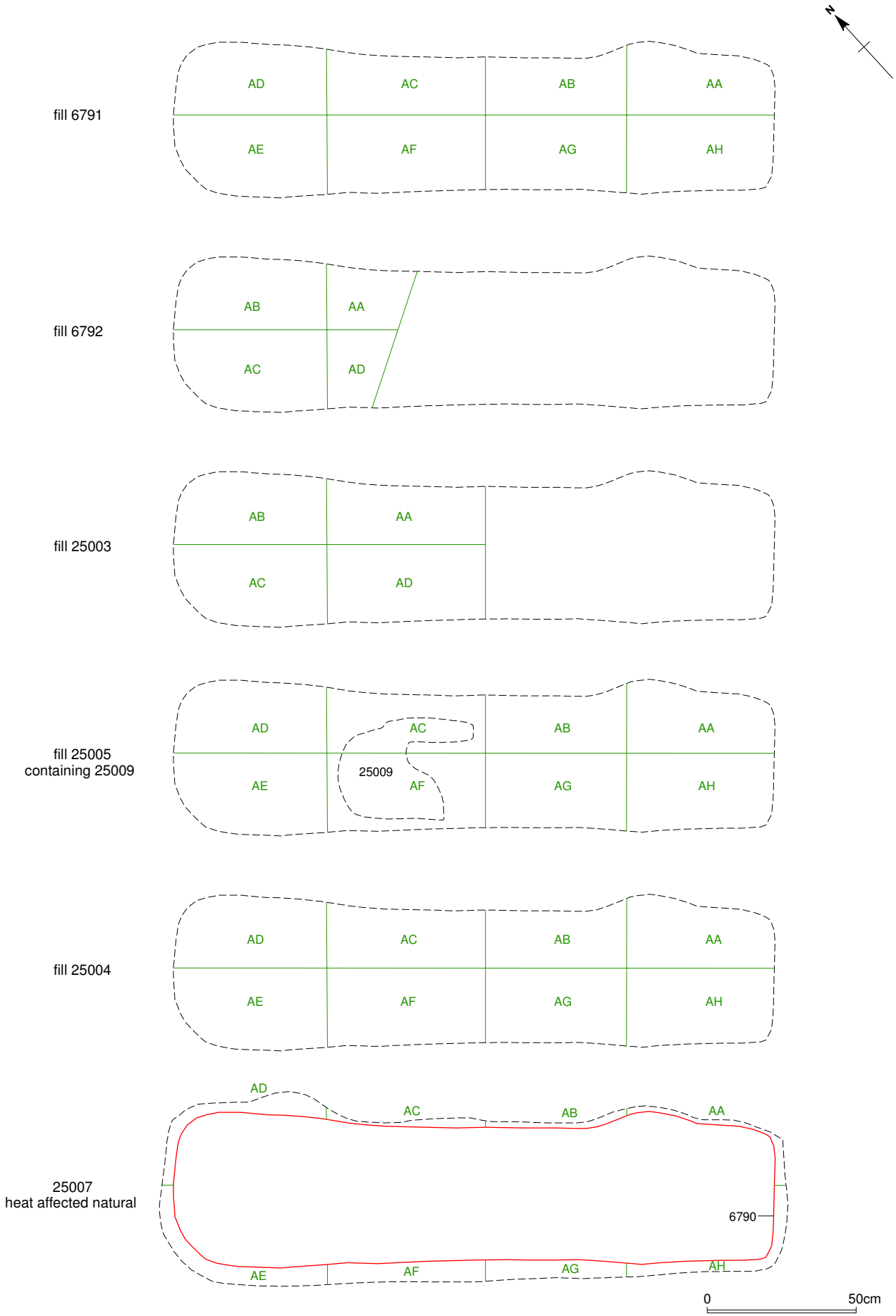


Figure 4.24: Cataractonium: location of sample sectors within the bustum burial (Grave 6790).

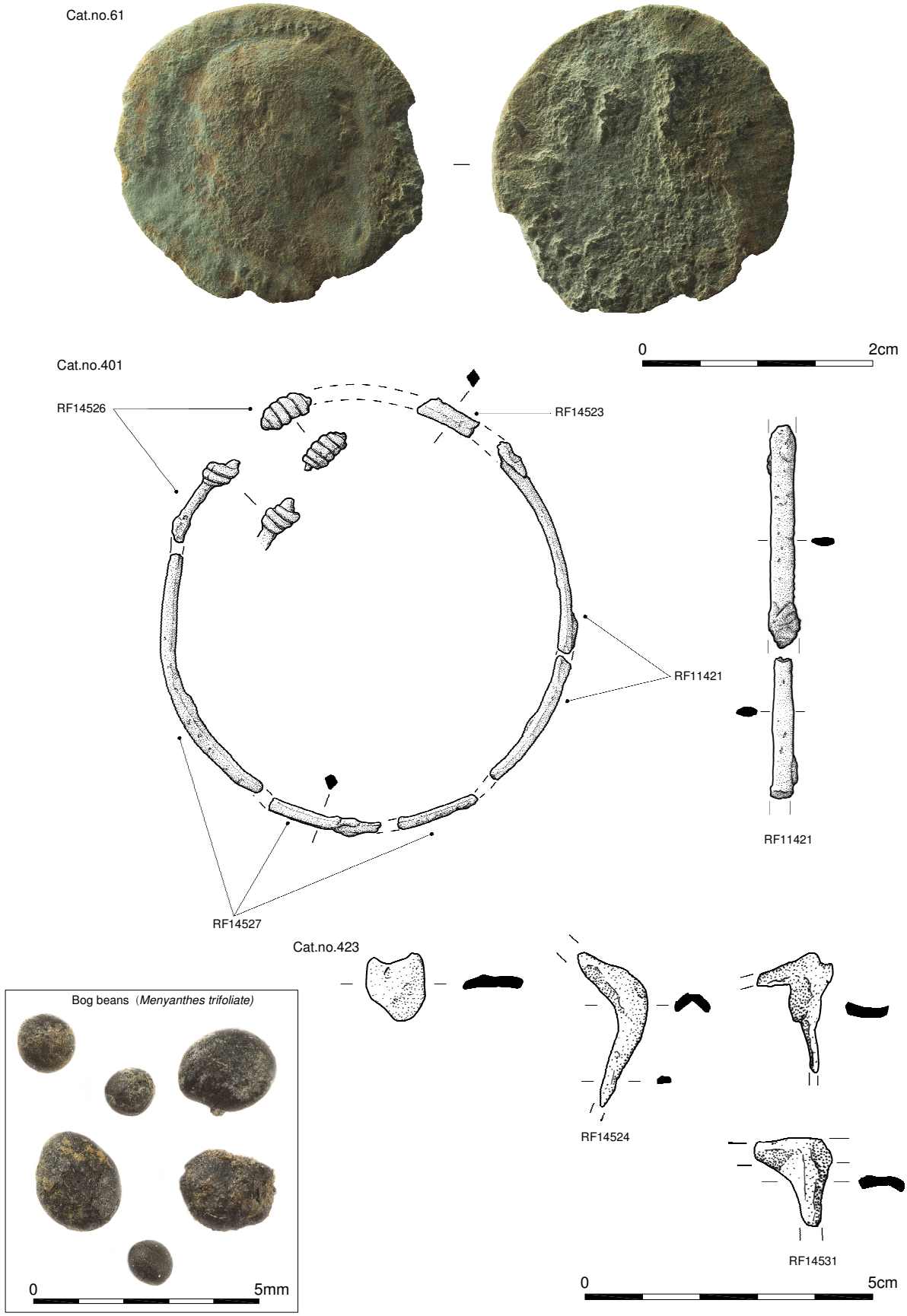


Figure 4.25: Cataractonium: part of the assemblage of finds from the bustum-type burial (Grave 6790).

BURIAL DURING THE 3RD CENTURY

During the 3rd century, the settlement had become a small town structured around the developing street pattern, which originated inside the Antonine defences (Fig. 4.26). The fort was abandoned, and the settlement may have been open following the removal of the Antonine defences. Expansion of the settlement beyond the Antonine maximum was not identified on the south side of the River Swale, suggesting that the position of the former rampart and ditch continued to mark the town boundary, although roadside settlement probably still continued alongside Dere Street to the south. However, the remains of the former defences north of the Swale became sealed by the settlement as it expanded northward along the edges of Dere Street. Three burials were found that had been interred during this period of the settlement, including a cremation burial (Grave **18207**), a foetus (Grave **21162**) and a neonate (Grave **9343**), all of which had been buried in domestic contexts.

Figure 4.26: Cataractonium during the 3rd century and the location of the associated burials.

Urned cremation

Grave 18207, Fort Bridge

Grave **18207** (Fig. 4.27) dated to the early to mid-3rd century and was located towards the southern edge of the town within a residential area of the settlement (Fig. 4.26), adjacent to a timber structure (**22447**; not illustrated).

Figure 4.27: Cataractonium: cremation burial (Grave 18207) viewed from the west.

The cremation deposit (**18208**) was contained within a BB1 jar (Cat. no. 50; Fig. 4.28), which provided a *terminus post quem* of AD220/225–240 for the burial. The cinerary urn and cremation deposit survived in good condition within the deeply stratified remains of the Roman settlement. However, it had been disturbed by the excavation of a modern service trench, which had resulted in damage to the rim and upper body of the vessel.

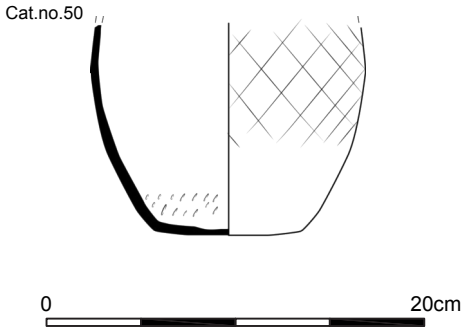


Figure 4.28: Cataractonium: cinerary urn from Grave 18207 at Fort Bridge.

Table 4.13: grave catalogue for Grave 18207, Fort Bridge.

Grave cut 18207	
Shape	-
Max. dimensions	-
Associated contexts	Grave fill 18256
Cremation deposit 18208	
Weight (g)	335.5
Largest fragment (mm)	34.3
Identified elements	Axial, upper limb, lower limb, long bone, skull
Colour	White, grey and black
Age	26-35 years
Sex	-
C14 date	cal AD71–232 (95.4%) (1869±34 BP, SUERC-75374/GU45174)
Grave contents	
Cinerary urn	Cat. no. 50 black-burnished ware (Fabric BB1) jar dated to c.AD220/225-240
Grave goods	-
Pyre goods	-
Other finds	-
Environmental	-
Interpretative date	Early 3rd century

Neonatal burials interred in domestic contexts

Grave 21162, Fort Bridge

Grave **21162** was located within a relatively high-status stone building (**18983**; Fig. 4.29), which occupied the same plot at the south edge of the settlement as the timber structure associated with Grave **18207** (Fig. 4.26). The building was first constructed as a single cell in the early 3rd century but was later partitioned by an east-west aligned wall that allowed for the insertion of a raised floor and hypocaust system in the south-east corner.

The burial contained the remains of a foetus (Skeleton 21155) that had been interred in the clay bedding for a flagged floor beside the eastern wall. It had been cut through by construction of the later partition wall suggesting the individual had been interred following initial construction and during the early 3rd century.

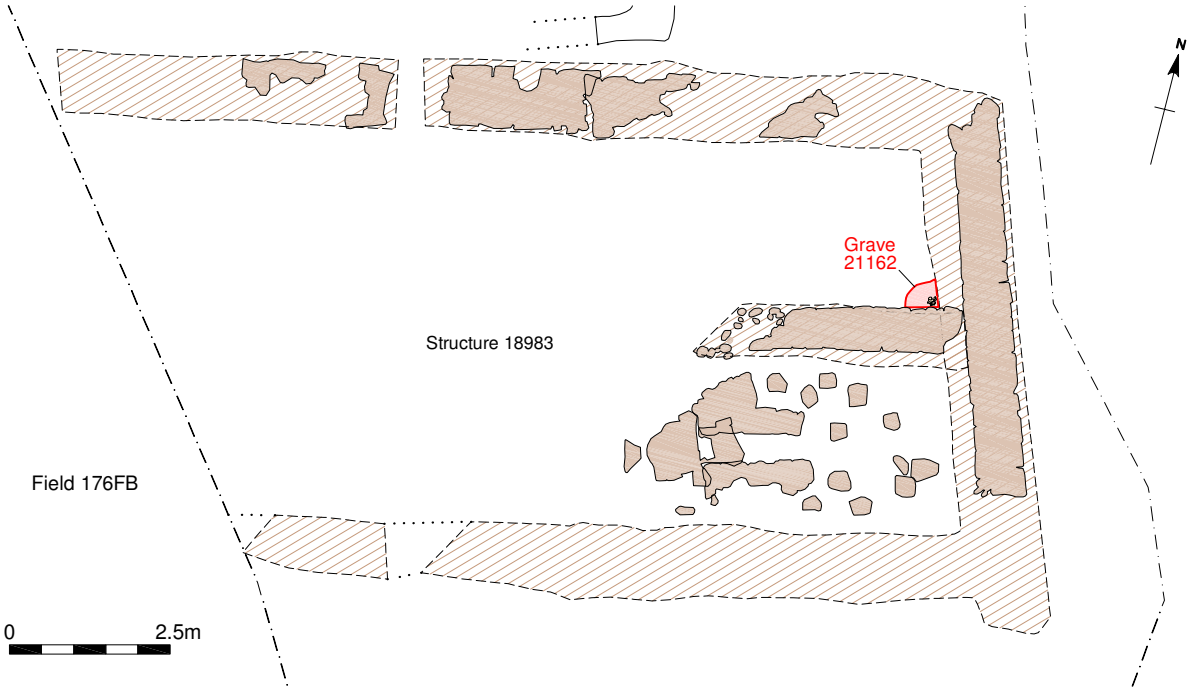


Figure 4.29: Cataractonium: plan showing structure 18983 and Grave 21162 at Fort Bridge.

Table 4.14: grave catalogue for Grave 21162, Fort Bridge.

Grave cut 21162	
Orientation	-
Max. dimensions	L: 0.5m, W: 0.4m, D: 0.1m
Associated contexts	Grave fill 21150
Skeleton 21155	
Orientation	Head to E
Posture	-
Arm position	-
Sex	-
Age	Foetus, 24-26 weeks in utero
Completeness	60%
Preservation	Good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD71–217 (95.4%) (1878±25 BP, SUERC-75042/GU46284)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Samian sherd x 1 (East Gaulish); RF13675 iron ringmail links x2; RF13676 iron hobnails x2; iron tacks x2; glass; fired clay; magnetic matter
Environmental	Animal bone (sheep/goat, pig, small rodent)
Interpretative date	Mid- to late 3rd century

Grave 9343, Brompton East

Grave 9343 was located within the northern suburb of the settlement (Fig. 4.26) and comprised the remains of a neonate (Skeleton 9091), which had been interred in a similar context to that of Grave 21162. The burial had been inserted against the internal face of the western wall of a stone building (9016; Fig. 4.30), which had occupied the western side of the foundation, and had been inserted into the upper level of the foundations. The grave had cut through a series of earthen and clay floors, suggesting the individual was buried later in the life of the structure. The neonate had been interred flexed, with the head to the south-west (Fig. 4.31).

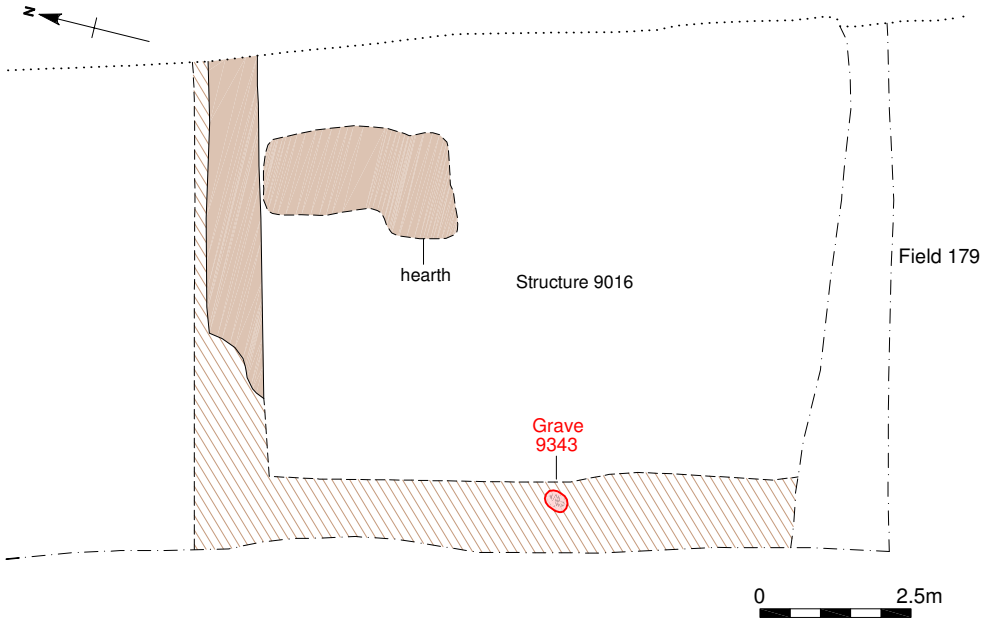


Figure 4.30: Cataractonium: plan showing structure 9016 and Grave 9343 at Brompton East.

Figure 4.31: Cataractonium: Grave 9343, viewed from the east.

Table 4.15: grave catalogue for Grave 9343, Brompton East.

Grave cut 9343	
Orientation	NE-SW
Max. dimensions	L: 0.4m, W: 0.3m, D: 0.1m
Associated contexts	Grave fill 9100
Skeleton 9091	
Orientation	Head to SW
Posture	Supine, flexed
Arm position	Flexed, drawn towards body
Sex	-
Age	Neonate, birth to 1 month
Completeness	60%
Preservation	Good
Dental pathology	All teeth are unerupted and crowns have not fully developed yet. Only cusps present
Pathology	Skeleton 9091 has potential evidence for trauma on the parietal and right frontal bone superior of the orbit. There is porous bone present along the edge of the endocranial surface of the parietal, and the area affected is pitted. The pitted area is c.1 cm in width and more greyish in colour than the rest of the cortical bone, which indicates the presence of new bone. The grey areas are running along the edge like a band and irregularly extend further towards the central area of the parietal. It is possible that this was sustained during birth
Stature (mm)	-
C14 date	cal AD140–400 (95.4%) (1866±33 BP, SUERC-75052/GU44915)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF7061 faience melon bead; RF7062 copper-alloy fragment; pottery sherds x1 (Fabric GRB); pottery sherd x1 (Fabric GRB2); magnetic matter; hammerscale; fired clay
Environmental	Charcoal; animal bone (duck, small rodent)
Interpretative date	Mid- to late 3rd century

BURIAL DURING THE LATE 3RD AND 4TH CENTURIES

By the beginning of the 4th century, a new fort had been constructed on the site of the Antonine fort, and the town to the east and on the south side of the River Swale had been enclosed by a wall (Fig. 4.32). The northern town suburb was left unenclosed, but still represented a densely occupied part of the settlement with a seemingly unbroken row of buildings that fronted Dere Street on both sides for a distance of at least 150m to the north of the river crossing. Twenty burials were identified to the west of the street frontage at Brompton West (Field 177/178), the majority of which were located in and around ditch-defined back plots that represented a continuation of the settlement plots fronting Dere Street recorded at Brompton East (Field 179; Fig. 4.2).

The majority of the graves contained individuals that had been interred during the early to mid-4th century, although a single, slightly later, individual suggested that burial in this area continued into the mid- to late 4th century. Two of the graves were found to the north of the back plots, which comprised a multiple burial of five individuals (Grave **20114**) and an elaborate cremation burial (Grave **20106**; Fig. 4.33). These graves respected the location and alignment of a ditch that formed part of a large, square, non-settlement enclosure that was situated to the north of the contemporary back plots suggesting they were not associated with the burials to the south.

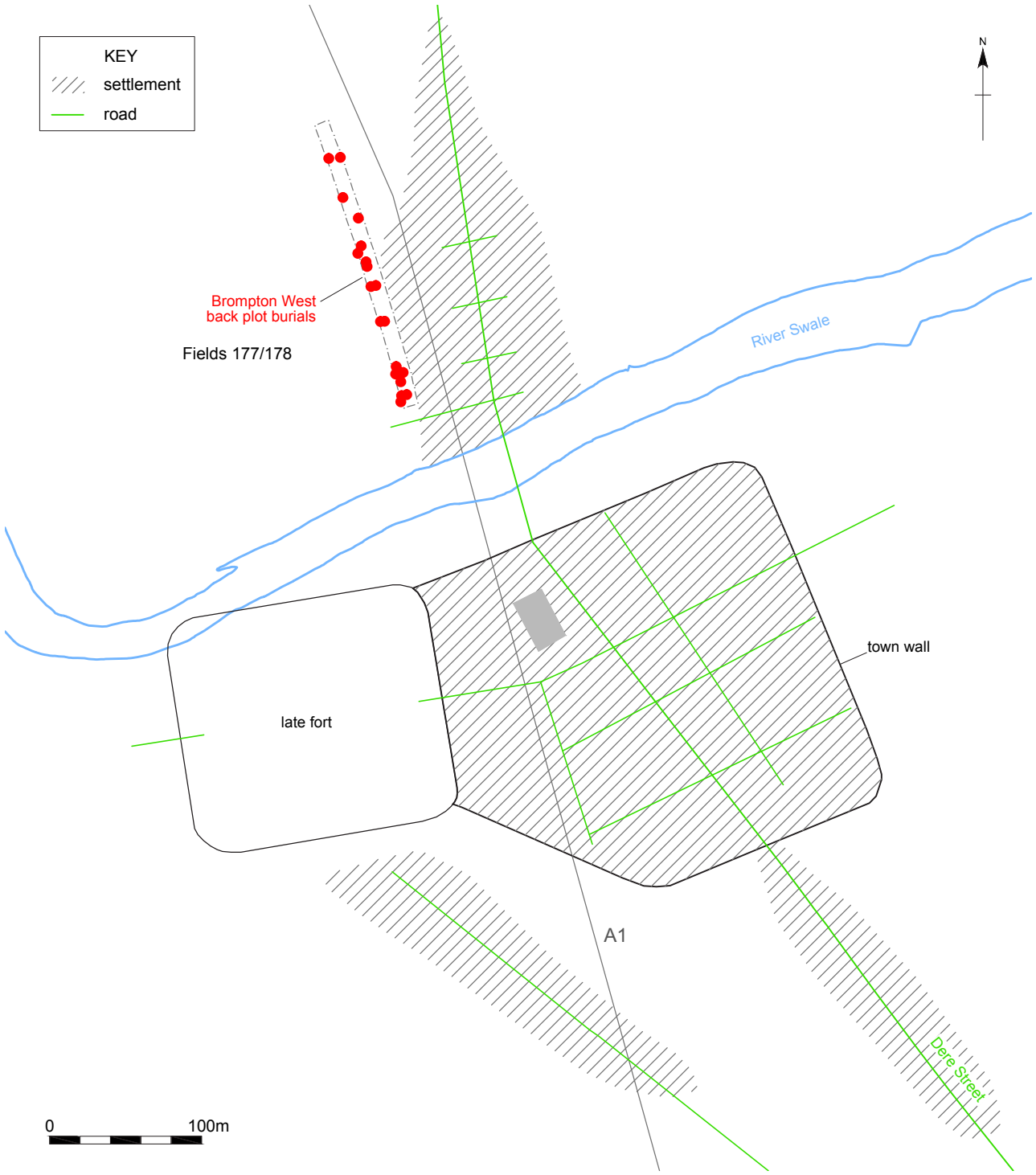


Figure 4.32: Cataractonium during the late 3rd and 4th centuries with associated burials at Brompton West.

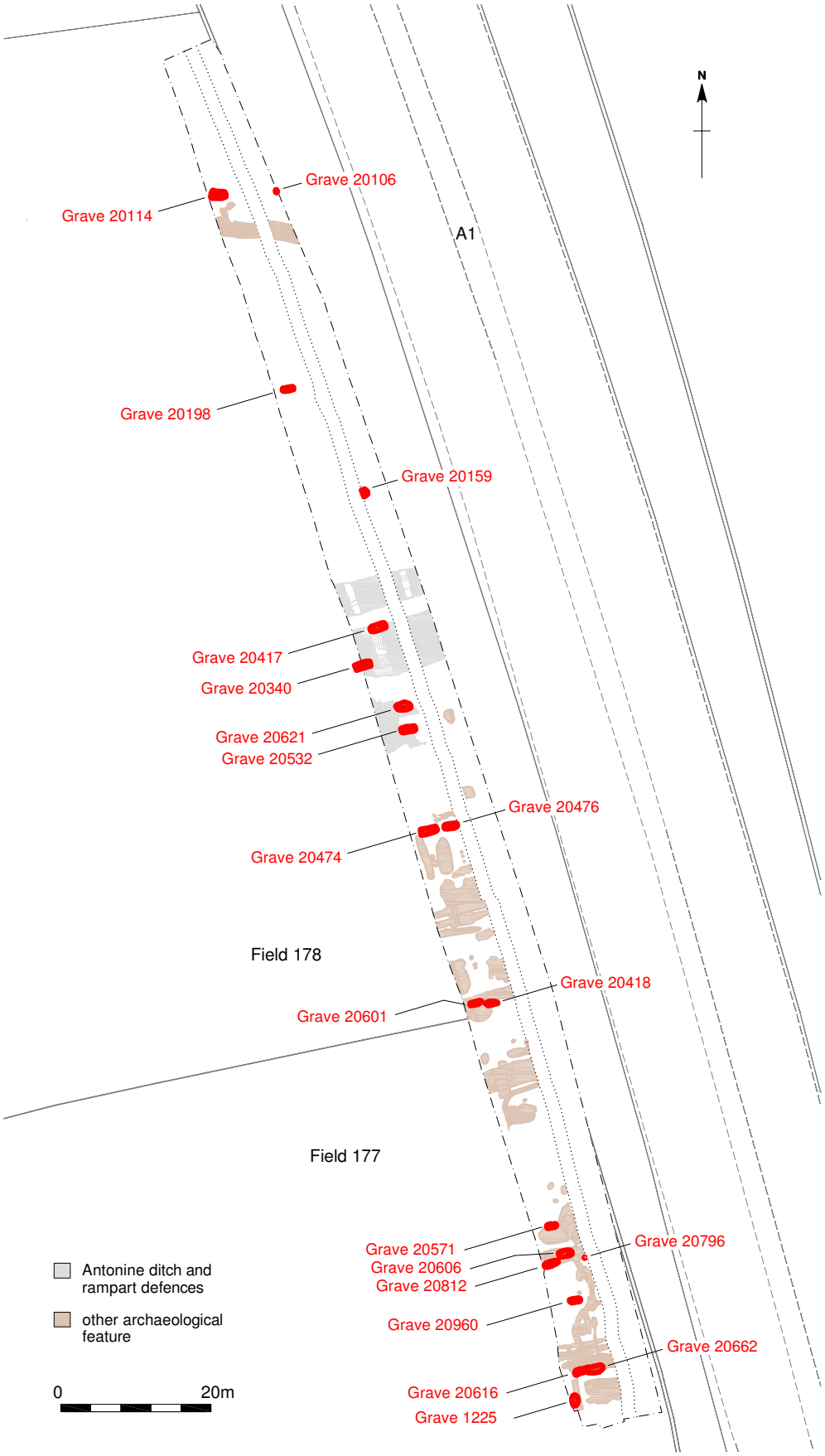


Figure 4.33: Cataractonium: location of all late 3rd- and 4th-century burials at Brompton West.

Back plot inhumation burials

Grave 1225, Brompton West

Grave **1225** was the southern-most of the burials identified at Brompton West (Fig. 4.33). Although it appeared to be situated centrally within a back plot, it was probably aligned with the rear boundary or an internal partition, resulting in the burial being perpendicular to the others recorded in the area.

The grave had been cut through the contemporary topsoil and alluvial deposits of sand to a depth that exposed the upper level of the underlying glacial gravel without impacting on it (Fig. 4.34). This provided a flat and level base for the grave, which was augmented by the addition of a stone lining using rounded river cobbles (Fig. 4.34). Grave **20616**, located 3m to the north was very similar in character (below). The skeleton in Grave **1225** survived in poor condition, with only fragments of the skull remaining toward the north end of the grave.

Figure 4.34 (left): Cataractonium: Grave 1225, viewed from the north.

Table 4.16: grave catalogue for Grave 1225, Brompton West.

Grave cut 1225	
Orientation	N-S
Max. dimensions	L: 1.45m, W: 0.85m, D: 0.48m
Associated contexts	Grave fill 1222; stone lining 1224
Skeleton 1223	
Orientation	Head to N
Posture	-
Arm position	-
Sex	-
Age	1-12 years
Completeness	10%
Preservation	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD218–385 (95.4%) (1752±30 BP, SUERC-76349/GU45968)
Grave contents	
Cist	Stone lining
Ceramic vessel	-
Grave goods	-
Other finds	Pottery; undiagnostic ceramic building material fragments x2; iron fragment
Environmental	Animal bone (sheep/goat, cattle)
Interpretative date	Early to mid-4th century

Grave 20662, Brompton West

Grave **20662** was located towards the northern boundary of the southern-most back plot (Fig. 4.33). The individual (Skeleton 20721) survived in very poor condition. Two cobbles appeared to have been positioned on either side of the head to support it (Fig. 4.35). The burial had been cut to the west by Grave **20616**.

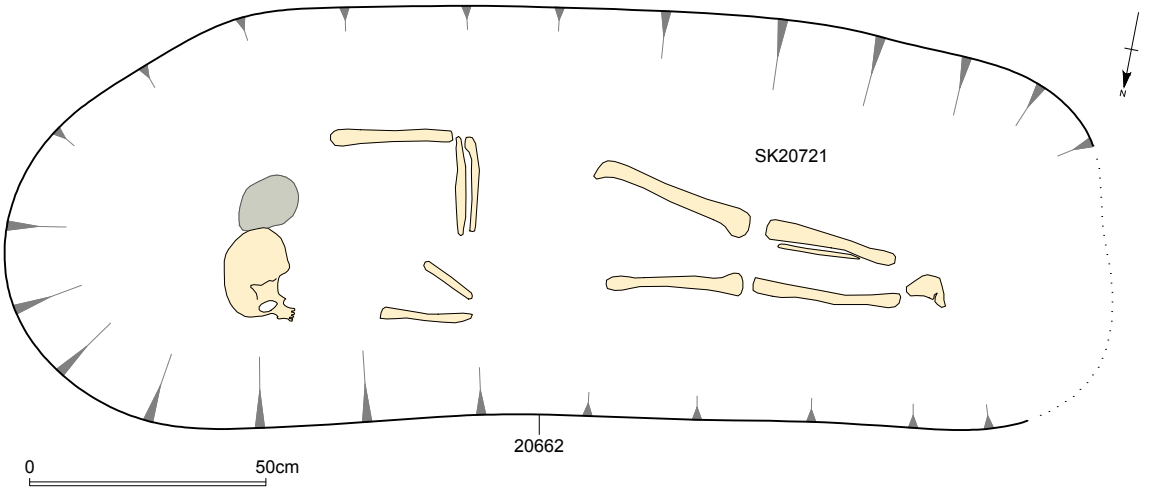


Figure 4.35: Cataractonium: plan of Grave 20662 at Brompton West.

Table 4.17: grave catalogue for Grave 20662, Brompton West.

Grave cut 20662	
Orientation	ENE-WSW
Max. dimensions	L: 2.26m, W: 1.02m, D: 0.81m
Associated contexts	Grave fill 20663
Skeleton 20721	
Orientation	Head to ENE
Posture	Extended, supine
Arm position	Flexed across torso
Sex	Male?
Age	46+ years
Completeness	60%
Preservation	Very Poor
Dental pathology	10 tooth positions, 16 teeth present, 1/10 lost post-mortem, 4/16 teeth with calculus, flecks to heavy deposits, 2 caries on 2/16 teeth, 1/16 teeth with chip out of enamel, externally draining abscess on the right maxilla
Pathology	Cribra Orbitalia. Sinusitis. Two small button osteomas were present on the central anterior region of the left parietal. Both osteomas comprised of small nodules of bone, which were contiguous with the ectocranial surface of the parietal, and measured 3.9mm and 3.3mm in diameter
Stature (mm)	-
C14 date	cal AD220–510 (95.4%) (1741±34 BP, SUERC-75347/GU45151)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x1 (Fabric GRB30); pottery sherd x1 (Fabric GRB2W); pottery sherd x1 (Fabric OBB); iron nails x3; iron sheet fragment x1; one imbrex fragment; undiagnostic ceramic building material fragments x6; hammerscale; magnetic matter
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle)
Interpretative date	Early to mid-4th century

Grave 20616, Brompton West

Figure 4.36: Cataractonium: Grave 20616, viewed from the north.

Grave **20616** was located towards the northern boundary of the southernmost back plot and had cut the west end of earlier Grave **20662** (Fig. 4.33). Grave **20616** was probably fully lined around the base with cobbles when constructed and, as with Grave **1225** located 3m to the south, had been cut to a depth that exposed the upper level of the glacial gravel, giving the impression of a stone base that was also augmented by the addition of a cobble lining (Fig. 4.36). The lining also served to cradle the head.

Table 4.18: grave catalogue for Grave 20616, Brompton West.

Grave cut 20616	
Orientation	ENE-WSW
Max. dimensions	L: 1.7m, W: 0.7m, D: 0.28m
Associated contexts	Grave fill 20613; stone lining 20614
Skeleton 20615	
Orientation	Head to ENE
Posture	Extended, supine
Arm position	Semi-flexed
Sex	Female?
Age	18+ years
Completeness	50%
Preservation	Very Poor
Dental pathology	0 tooth positions, 2 teeth present, 2/2 teeth with calculus, flecks to moderate deposits, dental chips on 1/2 teeth
Pathology	-
Stature (mm)	-
C14 date	cal AD226–391 (95.4%) (1741±34 BP, SUERC-75349/GU45153)
Grave contents	
Cist	Stone lining
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x1 (Fabric GRB6); hammerscale; fired clay
Environmental	Charcoal; CPR; animal bone (sheep/goat, equid)
Interpretative date	Early to mid-4th century

Grave 20960, Brompton West

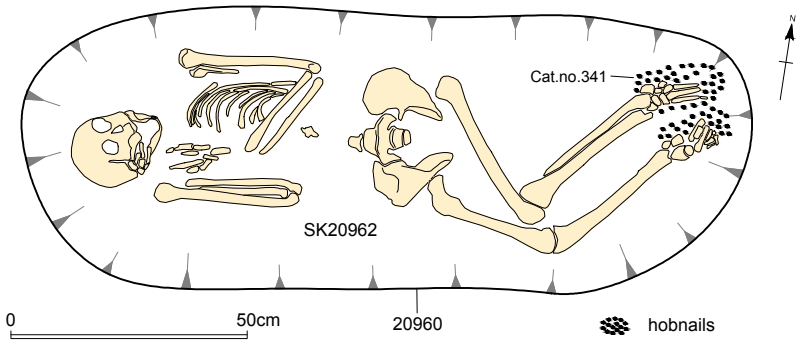


Figure 4.37: Cataractonium: plan of Grave 20960 at Brompton West.

The location of Grave **20960** seemed to differ from most of the others exposed in this area by being situated centrally within a back plot, although this may be the result of a boundary that had left no archaeological trace, as with Graves **20159** and **20198** located to the north (Fig. 4.33).

The individual had been interred wearing hobnailed footwear of robust construction (Fig. 4.37 and 4.38), which contained 176 hobnails, including uncommon examples with conical heads (Croom, Chapter 8).

Figure 4.38: Cataractonium: the remains of hobnailed footwear worn by the occupant of Grave 20960 at Brompton West.

Table 4.19: grave catalogue for Grave 20960, Brompton West.

Grave cut 20960	
Orientation	ENE-WSW
Max. dimensions	L: 1.45m, W: 0.55m, D: 0.18m
Associated contexts	Grave fill 20961
Skeleton 20962	
Orientation	Head to WSW
Posture	Supine, extended, legs flexed to right
Arm position	Right arm flexed, hand adjacent to right side of head, left arm flexed across chest
Sex	Male?
Age	18+ years
Completeness	90%
Preservation	Poor
Dental pathology	27 tooth positions, 14 teeth present 8/27 teeth lost ante-mortem, 5/27 teeth lost post-mortem, 5 caries on 4/14 teeth, externally draining abscess on the right mandible at the root of the canine. The anterior teeth were extremely worn, while the posterior teeth were only moderately worn (possible tool use)
Pathology	-
Stature (mm)	1650±40.5
C14 date	cal AD135–344 (95.4%) (1774±34 BP, SUERC-75344/GU45148)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Nailed footwear represented by x176 (minimum) hobnails: Cat. no. 341 (RF7695 (right) and RF7696 (left))
Other finds	Pottery sherd x1 (Fabric BAT AM1); pottery sherds x4 (Fabric NV CC); magnetic matter; hammerscale; coal
Environmental	Charcoal
Interpretative date	Early to mid-4th century

Grave 20812, Brompton West

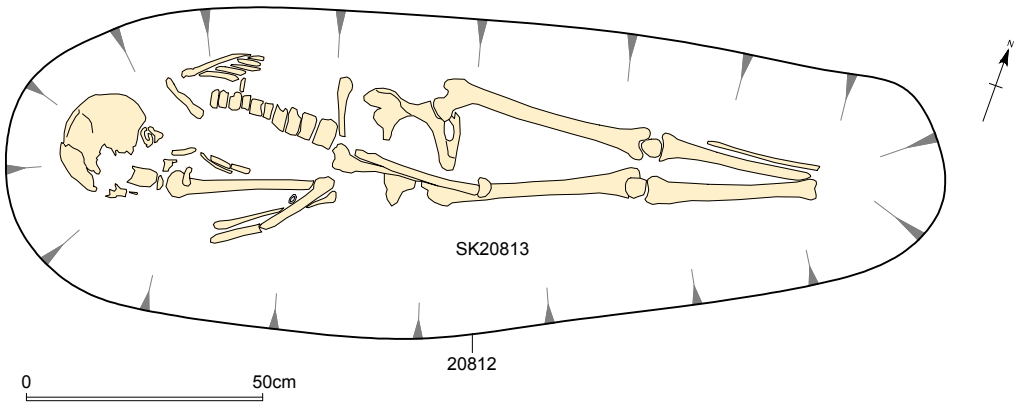


Figure 4.39: Cataractonium: plan of Grave 20812 at Brompton West.

Grave **20812** was located towards the northern edge of a back plot and was parallel to the adjacent boundary ditch (Fig. 4.33). The grave had been disturbed by later, possibly Roman, activity. The left humerus and radius had been moved from their original position—the humerus would have lain along the left side of the torso, with the forearm semi-flexed across the abdomen, as the left ulna, which remained in situ, evinced—and had been redeposited on top of each other across the pelvis (Figs 4.39 and 4.40). The placing of the skeletal fragments back with the individual suggests the remains had been recognised and respected as a grave when disturbed.

Figure 4.40: Cataractonium: Grave 20812, viewed from the south-east. Note the left humerus and radius redeposited across the pelvis.

Grave 20796, Brompton West

Little survived of Grave **20796** following its almost complete removal by the excavation of a modern drain trench in 1978 (discussed above). The grave was located at the northern edge of a back plot and was aligned with Grave **20812**, located to the west (Fig. 4.33). Only the skull and fragments of the right shoulder survived truncation.

Grave 20606, Brompton West

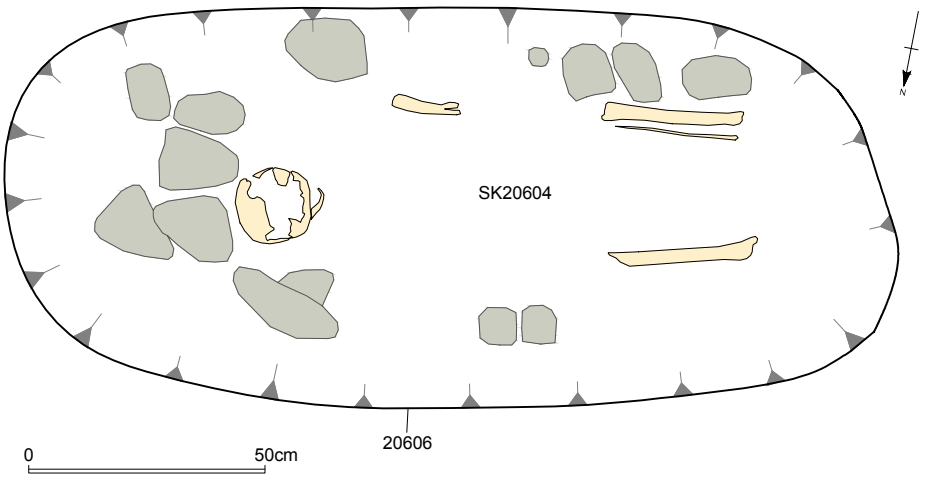


Figure 4.41: Cataractonium: plan of Grave 20606 at Brompton West.

Table 4.20: grave catalogue for Grave 20812, Brompton West.

Grave cut 20812	
Orientation	ENE-WSW
Max. dimensions	L: 1.9m, W: 0.62m, D: 0.37m
Associated contexts	Grave fill 20814
Skeleton 20813	
Orientation	Head to WSW
Posture	Extended, supine, head facing right
Arm position	Right arm tightly flexed, left arm semi-flexed across abdomen (later disturbance had resulted in left humerus and radius being re-deposited)
Sex	-
Age	36-45 years
Completeness	80%
Preservation	Moderate
Dental pathology	27 tooth positions, 28 teeth present (4 of which are impacted but visible in crypts), 1/27 lost post-mortem, 17/28 teeth with calculus, flecks to moderate deposits, 1 caries on 1/28 teeth. Both mandibular M3s were orientated horizontally with the crowns medial and the roots distal. The crown of the right maxillary canine was evident in the roof of the maxilla, due to taphonomic alteration, the left mandibular PM2 was also evident within the crypt as a result of taphonomic damage to the internal surface of the mandible
Pathology	Cribra Orbitalia. DJC in the left acetabulum and proximal left femur, an un-sided intermediate hand phalanx, and a left proximal pedal phalanx. Cortical defect/OD on the distal articulation of the left humerus. The lesion was located on the inferior surface of the trochlea, and had smooth shallow sloping, rounded edges and base, which was contiguous with the articular surface. The lesion measured 2.2 mm in diameter. Two intermediate and distal pedal phalanges had fused to one another; the margins of the joint were still discernible, suggesting the cause was not developmental. The fusion of the phalanges was smooth and well remodelled, with the distal phalanges in good apposition in both cases (possible crush fractures)
Stature (mm)	1733±29.9 (M), 1708±35.5 (F)
C14 date	245–400 cal AD (95.4%) (1712±34 BP, SUERC-75343/GU45147)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	
Other finds	Pottery sherd x1 (Fabric BAT AM2); pottery sherd x1 (Fabric GRB); pottery sherds x5 (Fabric GRB2); pottery sherds x2 (Fabric GRB28); samian sherd x1 (Central Gaulish); samian sherd x1 (South Gaulish); RF15113 bone pin fragment; undiagnostic fragments of ceramic building material x5; magnetic matter; hammerscale
Environmental	Charcoal; CPR; animal bone (cattle, pig, unidentified animal bone)
Interpretative date	Early to mid-4th century

Grave **20606** had been cut centrally into an infilled plot boundary ditch and the individual (Skeleton 20604; Fig. 4.33) had been interred upon what would have been the base of that ditch. Occasional cobbles survived at the edges of the grave, suggesting it had been partially lined (Fig. 4.41). The head of the individual appeared to have been supported by a group of cobbles.

Grave 20571, Brompton West

Grave **20571** may have been located within the southern part of a back plot, although no obvious northern boundary to the plot was identified (Fig. 4.33). The individual (Skeleton 20573) was interred supine with their arms folded on their chest (Fig. 4.42), but appeared to have slumped into the fill of an underlying feature (Figs. 4.43).

Grave 20418, Brompton West

Grave **20418** was located at the northern edge of a plot and respected Grave **20601** to its west (Fig. 4.33). A flat stone that had been placed vertically on the right side of the skull of individual (Skeleton 20395) served to support it in line with the body (Fig. 4.44). A large flat stone had been placed to the right side of the upper body, which may have served as a stand for grave goods, although no evidence of any such items survived.

Table 4.21: grave catalogue for Grave 20796, Brompton West.

Grave cut 20796	
Orientation	ENE-WSW?
Max. dimensions	-
Associated contexts	Grave fill 20795
Skeleton 20844	
Orientation	Head to the WSW
Posture	Supine?
Arm position	-
Sex	Male?
Age	26-35 years
Completeness	35%
Preservation	Good
Dental pathology	19 tooth positions, 31 teeth present 22/31 teeth with calculus, flecks to slight deposits, 1 caries on 1/31 teeth, 18/31 teeth with DEH
Pathology	Cribra Orbitalia
Stature (mm)	-
C14 date	cal AD220–510 (95.4%) (1739±34 BP, SUERC-75348/GU45152)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	Early to mid-4th century

Table 4.22: grave catalogue for Grave 20606, Brompton West.

Grave cut 20606	
Orientation	ENE-WSW
Max. dimensions	L: 1.9m, W: 0.84m, D: 0.10m
Associated contexts	Grave fill 20605, stone lining 20640
Skeleton 20604	
Orientation	Head to ENE
Posture	Extended, supine
Arm position	-
Sex	-
Age	18+ years
Completeness	40%
Preservation	Very poor
Dental pathology	0 tooth positions, 11 teeth present, 1 caries on 1/11 teeth, externally draining abscess on the left mandible at the root of the second molar
Pathology	-
Stature (mm)	-
C14 date	cal AD170–190 (0.5%), cal AD210–430 (94.9%) (1763±34 BP, SUERC-75338/GU45145)
Grave contents	
Cist	Partial stone lining
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherd x1 (Fabric FLB2); pottery sherd x1 (Fabric GRB2); glass; magnetic matter; hammerscale
Environmental	Charcoal; CPR; animal bone (cattle)
Interpretative date	Early to mid-4th century

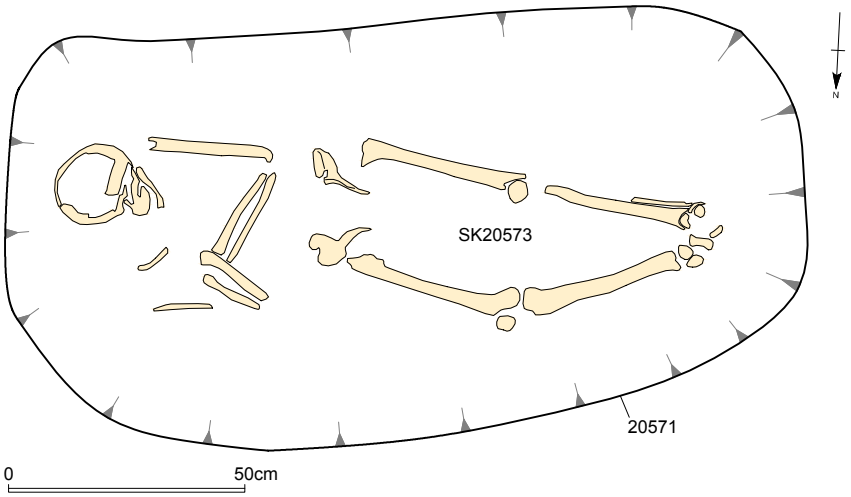


Figure 4.42: Cataractonium: plan of Grave 20571 at Brompton West.

Figure 4.43: Cataractonium: Grave 20571, viewed from the south-west.

Table 4.23: grave catalogue for Grave 20571, Brompton West.

Grave cut 20571	
Orientation	ENE-WNW
Max. dimensions	L: 1.7m, W: 0.94m, D: 0.73m
Associated contexts	Grave fill 20572
Skeleton 20573	
Orientation	Head to ENE
Posture	Extended, supine, head facing down and to the left
Arm position	Left arm flexed across chest, right arm tightly flexed over left arm
Sex	Male
Age	36-45 years
Completeness	80%
Preservation	Moderate
Dental pathology	31 tooth positions, 28 teeth present, 2/31 lost post-mortem, 1/31 lost ante-mortem, 13/28 teeth with calculus, slight to moderate deposits, 1 caries on 1/28 teeth, externally draining abscess on the right maxilla, slight periodontal disease
Pathology	Cribra Orbitalia. Sinusitis. DJC in the cervical and thoracic, spine, the right acetabulum, both proximal femora, the right distal tibia, and the proximal and intermediate phalanges for the left second metacarpal. OA in the thoracic spine, and right acetabulum. Calcaneus secundarius in the left calcaneus, a small semi-circular lesion was present on the anterior medial margin of the anterior articular facet. The surface of the lesion was smooth, but irregular. The avulsed fragment was not present. The right distal fibula had a well healed oblique fracture to the distal shaft, with slight anterior angulation of the distal fragment. The callus was very smooth, and well remodelled, with good apposition of the two fragments. The fracture was located immediately superior to the distal articulation, with possible associated soft tissue/ligament damage; the surface of the attachment for the interosseous ligament was roughened with spicules of bone extending from the medial-anterior border of the capsular attachment. The posterior margin of the distal right tibia, articular surface may have also been involved, with atrial impaction of the articular margin, creating a pushed in appearance. Further possible trauma to the distal shaft of the left second metacarpal, which had a slight inferior angulation to the distal shaft and articulation, creating a curved appearance. The proximal phalanx for the second metacarpal exhibited a thickened nodule of bone on the palmar surface of the distal third of the shaft, possibly an ossified haematoma, the distal articulation of the phalanx also exhibited moderate porosity and marginal lipping. What was probably the intermediate phalanx for the second metacarpal had an enlarged proximal articular surface with extension of the superior and inferior articular margins, appearing more like a pedal articulation, the centre of the articulation was irregular with a medium sized foramen penetrating the articular surface
Stature (mm)	-
C14 date	cal AD218–392 (95.45%) (1745±34 BP, SUERC-75346/GU45150)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x2 (Fabric FLA2); pottery sherd x1 (FLA5); samian sherd x1 (Central Gaulish); undiagnostic fragments of ceramic building material x5; flint flake; glass; fired clay; magnetic matter; hammerscale
Environmental	CPR
Interpretative date	Early to mid-4th century

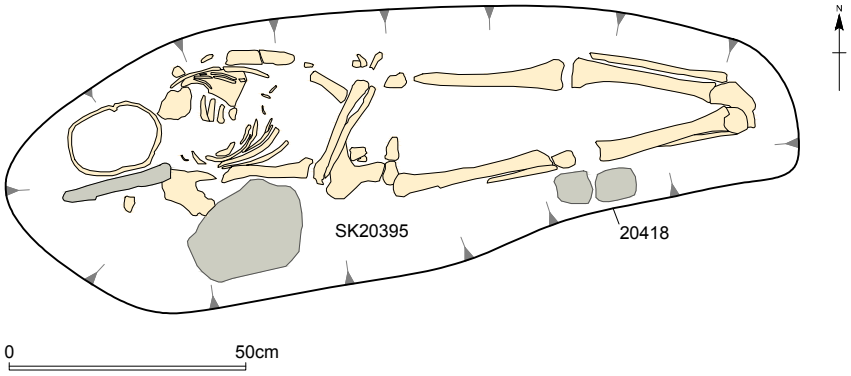


Figure 4.44: Cataractonium: plan of Grave 20418 at Brompton West.

Table 4.24: grave catalogue for Grave 20418, Brompton West.

Grave cut 20418	
Orientation	ENE-WSW
Max. dimensions	L: 1.63m, W: 0.55m, D: 0.2m
Associated contexts	Grave fill 20419
Skeleton 20395	
Orientation	Head to WSW
Posture	Supine, extended
Arm position	Semi-flexed and crossed right over left across the pelvis
Sex	Male
Age	18-25 years
Completeness	80%
Preservation	Good
Dental pathology	2 tooth positions, 4 teeth present, 4/4 teeth with calculus, flecks to slight
Pathology	Schmorl's nodes in the thoracic spine. Possible lumbarisation of S1. A very poorly preserved fragment of what looked like a sacral body, with a wider superior body than inferior the right lamina was entirely independent, as was the inferior body. Unfortunately, the left lamina was not present, the body of S1/2 was also present and appeared as a normal first sacral vertebra would. Possible coxa vara of the left femur, the head of the femur sat below the height of where the greater trochanter would have been, although the greater trochanter was not present, as a result of taphonomic alteration. Possible cortical defect/OD on the proximal articulation of the right proximal phalanx for MT1; a deep crevasse was present on the centre of the articular surface, which had irregular margins, exposing the underlying trabecular bone. The lesion had an inactive appearance and measured 6.2mm in diameter
Stature (mm)	-
C14 date	cal AD255–302 (15.7%), cal AD316–422 (79.7%) (1684±34 BP, SUERC-75353/GU45154)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Cat. no. 361 hobnail x1; RF13725 iron wire (possible bracelet); pottery sherd x1 (Fabric GRA); magnetic matter; hammerscale
Environmental	Charcoal; CPR
Interpretative date	Early to mid-4th century

Grave 20601, Brompton West

Grave **20601** was located within a back plot of the same date as, and had been interred broadly in line with, Grave **20418** to its east (Fig. 4.33). The grave was partly stone lined with rounded cobbles around the head end and along its right side (Fig. 4.45). It is likely that a fragment of copper-alloy rod and four hobnails were accidental inclusions, as they were recovered from higher up in the grave fill and away from the position of the skeleton.

Figure 4.45: Cataractonium: Grave 20601, viewed from the south.

Table 4.25: grave catalogue for Grave 20601, Brompton West.

Grave cut 20601	
Orientation	ENE-WSW
Max. dimensions	L: 1.60m, W: 0.55m, D: 0.25m
Associated contexts	Grave fill 20602
Skeleton 20603	
Orientation	Head to ENE
Posture	Extended, supine
Arm position	Both arms extended to the side of the body
Sex	-
Age	18-25 years
Completeness	90%
Preservation	Moderate
Dental pathology	32 tooth positions, 30 teeth present, 2/32 lost post-mortem, 22/30 teeth with calculus, flecks to moderate deposits, slight periodontal disease. Chips on the dental enamel of 8/30 teeth
Pathology	Cribra Orbitalia. Sinusitis. The left hamate had an underdeveloped hook of hamate, only a small, smooth protrusion was present, probable hypoplasia
Stature (mm)	1572±29.9 (M), 1536±35.5 (F)
C14 date	cal AD219–388 (95.4%) (1748±32 BP, SUERC-76672/GU45969)
Grave contents	
Cist	Partial stone lining
Ceramic vessel	-
Grave goods	-
Other finds	RF12842 copper-alloy rod; Cat. no. 363 hobnails x4; pottery sherds x1 (Fabric FLA2); pottery sherds x2(Fabric FLB1); pottery sherd x1 (Fabric GRA6); pottery sherd x1 (Fabric GRB6); pottery sherds x2(Fabric GRB30); amphora sherd x1(Fabric OU13); glass; flint debitage x4; hammerscale; clinker; slag
Environmental	Charcoal; animal bone (sheep/goat, cattle, pig, equid)
Interpretative date	Early to mid-4th century

Grave 20474, Brompton West

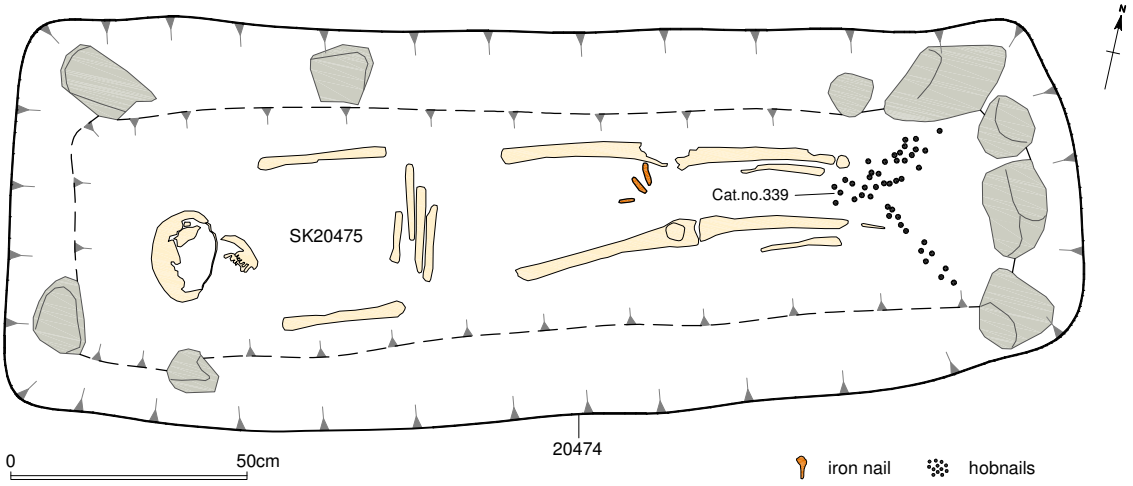


Figure 4.46: Cataractonium: plan of Grave 20474 at Brompton West.

Grave **20474** was located at the northern boundary of what was probably an active back plot and lay in line with Grave **20476** to its east (Fig. 4.33). The grave had been cut with a stepped profile, which was similar to a number of graves in the late Roman cemetery at Lankhills, Winchester (Booth *et al.* 2010, 330). In Grave **20474**, however, the central recess was partially stone lined at the foot end of the grave and appeared to have been excavated to accommodate the coffin (Fig. 4.46) rather than to support a wooden platform, as has been suggested at Lankhills (*ibid.*). The individual (Skeleton 20475) in Grave **20474** had been interred wearing hobnailed footwear of robust construction (Cat. no. 339; Fig. 4.47) and three iron nails (RF7589, RF7590 and RF7591) had been placed between the legs. Other artefacts recovered from the fill of the grave, including a fragment of bone pin (RF7585) and a spindle-whorl (RF13674), were most likely residual as they were identified within the upper level of the grave fill.

Figure 4.47: Cataractonium: the remains of hobnailed footwear worn by the occupant of Grave 20474.

Table 4.26: grave catalogue for Grave 20474, Brompton West.

Grave cut 20474	
Orientation	ENE-WSW
Max. dimensions	L: 2.30m, W: 0.45m, D: 0.60m
Associated contexts	Primary grave fill 20479; secondary grave fill 20429
Skeleton 20475	
Orientation	Head to WSW
Posture	Extended, supine, head facing right
Arm position	Flexed at 90 across the abdomen
Sex	Female?
Age	18+ years
Completeness	60%
Preservation	Very poor
Dental pathology	0 tooth positions, 14 teeth present, 11/14 teeth with calculus flecks, DEH on 5/14 teeth
Pathology	Possible depression fracture on the right parietal; a sub-oval depression measured 25.9mm ap by 29.5mm ml, and had smooth gradually sloping edges, with smooth surfaces to the sides and the base of the lesion, which was located on the medio-anterior region of the bone. The left parietal appeared unaffected, suggesting it was not the result of developmental thinning
Stature (mm)	-
C14 date	cal AD220–440 (95.4%) (1754±34 BP, SUERC-75359/GU45161)
Grave contents	
Coffin	Partial stone lining
Ceramic vessel	-
Grave goods	Nailed footwear represented by x174 (minimum) hobnails: Cat. no. 339 (RF7588 (left) x102 hobnails, RF7587 (right) x72 hobnails); RF7589, RF7590, RF7591 iron nails x3
Other finds	RF7585 bone pin fragment; RF13674 incomplete pierced pottery (OBA5) disc; pottery sherds x4 (Fabric BB1); pottery sherd x1 (Fabric CRA RE); pottery sherds x3 (Fabric FLA2); pottery sherd x1 (Fabric FLA27); pottery sherd x1 (Fabric FLB1); pottery sherds x4 (Fabric GRA15); pottery sherd x1 (Fabric GRA5); pottery sherds x3 (Fabric GRB16); pottery sherds x4 (Fabric GRB2); pottery sherd x1 (Fabric NVCC); pottery sherds x2 (Fabric OAA3); pottery sherds x3 (Fabric OAA4); pottery sherd x1 (Fabric OAB1); pottery sherds x5 (Fabric OBA5); samian sherds x2 (Dr.27); samian sherds x3 (Dr.37); samian sherds x2 (unidentified); flint debitage x1; glass; magnetic matter; hammerscale; clinker
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle, pig, small rodent)
Interpretative date	Early to mid-4th century

Grave 20476, Brompton West

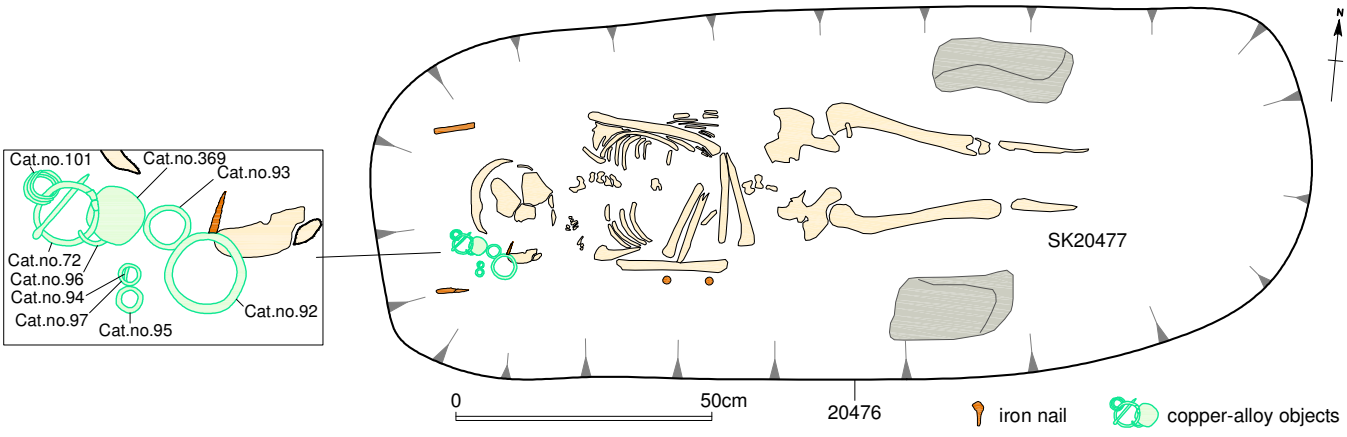


Figure 4.48: Cataractonium: plan of Grave 20476 at Brompton West.

Grave **20476** was located in line with Grave **20474** (Fig. 4.33). The individual in Grave **20476** had been interred inside a coffin that appeared to have been nailed from the ends, with other nails recovered from the long sides, which may have attached the base board (Fig. 4.48). An assemblage of grave goods had been placed within the coffin at the right side of the head, which included a collection of 13 circular objects (Fig. 4.49). The items were generally made of copper alloy and may have had some religious or amuletic significance (see Chapter 8). The assemblage included a coin (AD335–345), a finger-ring (Cat. no. 101), a horse harness strap distributor (Cat. no. 369) and a number of loops (Fig. 4.50). The finger-ring and one of the loops had been threaded onto a penannular brooch (Cat. no. 72), which had been pushed closed at the terminals to retain the items. The coin and some of the other finds recovered from the grave, including a buckle and residual pottery sherds, suggest a slightly later date for this burial in the mid- to late 4th century.

Figure 4.49: Cataractonium: grave goods in situ within Grave 20476.

Grave 20532, Brompton West

Grave **20532** had been cut into the remains of an intervallum road associated with the Antonine defences, which were by this time long redundant, and was likely aligned to the upstanding remains of the rampart (Fig. 4.33).

The grave contained the remains of an adult female (Skeleton 20585) whose head had been raised slightly and positioned using a collection of cobbles. Her hands had been laid across the pelvis (Fig. 4.51). The hand position may have been in reference to a death in childbirth, as the remains of a perinate (Skeleton 20543) were also interred in the grave and found a little higher up in the fill, positioned over the adult's chest. However, DNA analysis would be required to prove any familial association. A possible fish-hook (Cat. no. 368; Fig. 4.52) had also been included in the grave, which had been placed between the woman's legs. A second fish-hook was recovered from Grave **20340** located only 10m to the north-west, which indicates that this was a deliberate inclusion. Other finds within the grave included four iron nails, with two located at either side of the shoulders. These nails did not appear to represent the remains of a coffin, as one was incomplete and the other three were curved. They may have been included in the grave as amulets (see Chapter 8).

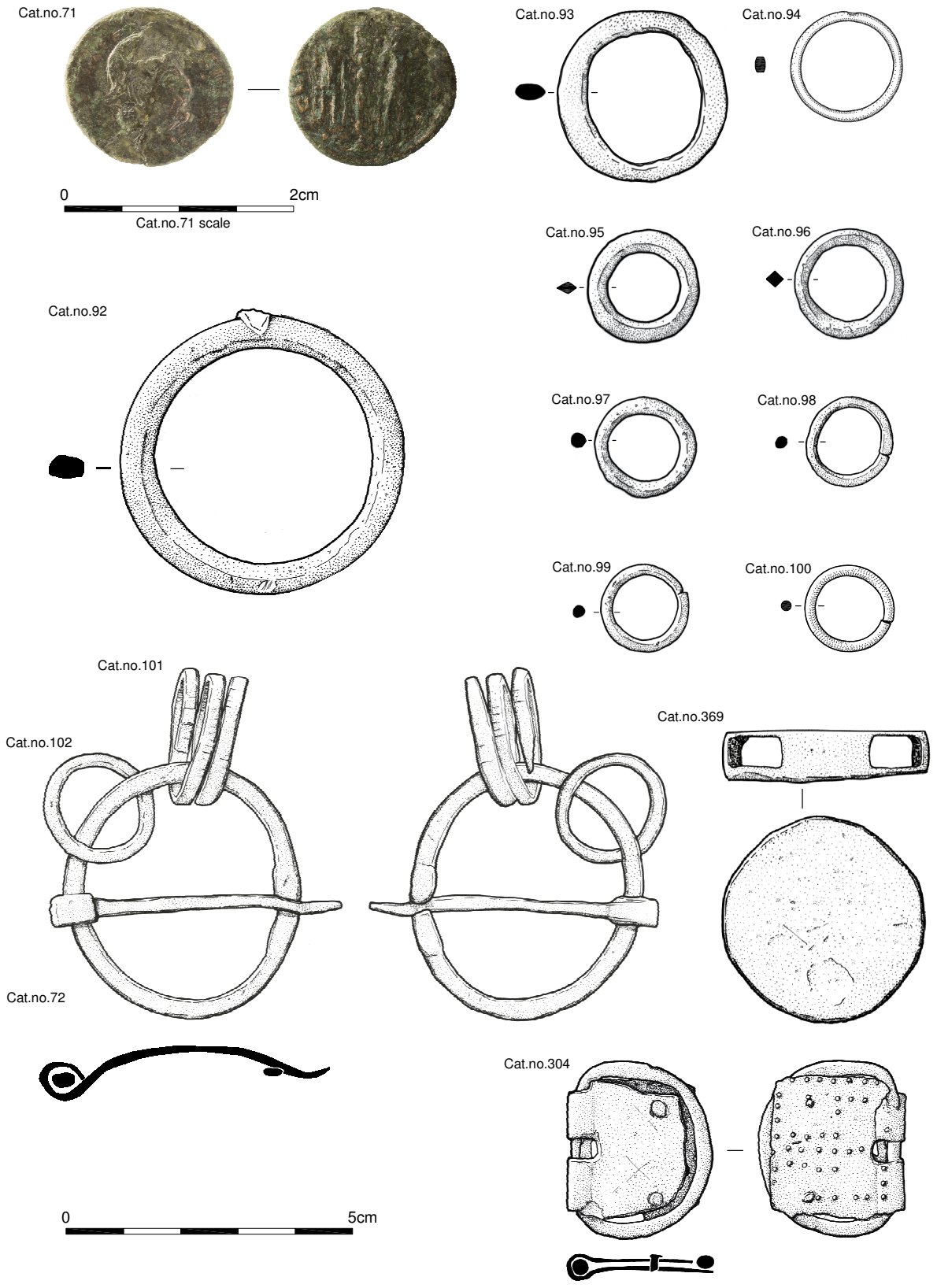


Figure 4.50: Cataractonium: part of the finds assemblage recovered from Grave 20476.

Table 4.27: grave catalogue for Grave 20476, Brompton West.

Grave cut 20476	
Orientation	ENE-WSW
Max. dimensions	L: 1.75m, W: 0.70m, D: 0.70m
Associated contexts	Primary grave fill 20478; secondary grave fill 20430
Skeleton 20477	
Orientation	Head to WSW
Posture	Extended, supine, head turned to the right
Arm position	Flexed and crossed over the chest
Sex	-
Age	13-17 years
Completeness	75%
Preservation	Moderate
Dental pathology	3 tooth positions, 31 teeth present, 1/3 lost post-mortem, 5/31 teeth had calculus, slight deposits, 16/31 teeth had DEH
Pathology	Cribra Orbitalia. Sinusitis. Woven bone on the pleural surface of the second to eighth left ribs. The woven bone formed a plaque like layer, largely covering the rib necks and vertebral ends of the shafts
Stature (mm)	-
C14 date	cal AD210–430 (95.4%) (1765±34 BP, SUERC-75365/GU45164)
Grave contents	
Coffin	The coffin was constructed using seven iron nails (RF7572, RF7594, RF7595, RF7596, RF7601), one of which had facilitated the survival of a fragment of wood (RF7601) that indicated a plank thickness of c.10mm
Ceramic vessel	-
Grave goods	Cat. nos 92–100 and 102 copper-alloy loops; Cat. no. 101 copper-alloy and silver spiral finger-ring; Cat. no. 72 copper-alloy penannular brooch; Cat. no. 369 copper-alloy horse harness strap distributor; Cat. no. 304 copper-alloy D-shaped buckle; Cat. no. 71 copper-alloy coin (minted AD 335–37); Cat. no. 103 iron loop
Other finds	Cat. no. 362 hobnails x2; pottery sherd x1 (Fabrics BAT AM1); pottery sherd x1 (Fabric BB1); pottery sherd x1 (Fabric FLA5); pottery sherd x1 (Fabric GRB1); pottery sherd x1 (Fabric GRB30); pottery sherds x2 (Fabric GRB42); pottery sherd x1 (Fabric GRB6); pottery sherd x1 (Fabric MH); pottery sherds x3 (Fabric NV CC); pottery sherd x1 (Fabric OAA3); samian sherds x3 (DR.37); samian sherd x1 (unidentified); glass; magnetic matter; hammerscale
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle, pig)
Interpretative date	Mid- to late 4th century

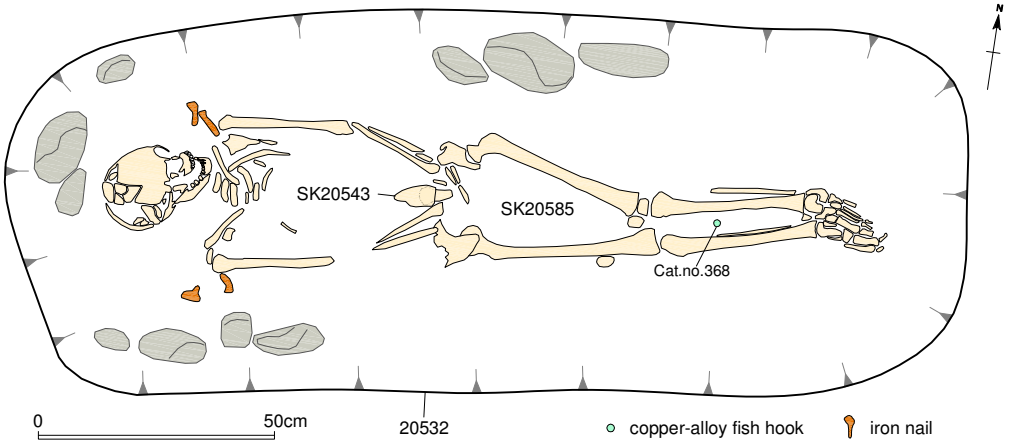


Figure 4.51: Cataractonium: plan of Grave 20532 at Brompton West.

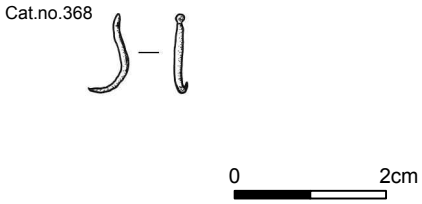


Figure 4.52: Cataractonium: a fish-hook from Grave 20532.

Table 4.28: grave catalogue for Grave 20532, Brompton West.

Grave cut 20532	
Orientation	ENE-WSW
Max. dimensions	L: 1.73m, W: 0.74m, D: 0.26m
Associated contexts	Grave fill 20533
Skeleton 20585	
Orientation	Head to WSW
Posture	Extended, supine, head turned slightly to the left
Arm position	Slightly flexed, hand together over the pelvis
Sex	Female
Age	26-35 years
Completeness	80%
Preservation	Poor
Dental pathology	28 tooth positions, 30 teeth present, 1/28 lost ante-mortem, 16/30 teeth with calculus, flecks to slight deposits, 5 caries on 5/30 teeth, slight periodontal disease, DEH on 13/30 teeth, chips on the dental enamel of 10/30 teeth
Pathology	Hiatus in the anterior lateral margin of the right transverse foramen of the second cervical vertebra, possibly eroded due to the pressure of the vertebral artery, or filled by ligamentous tissue
Stature (mm)	-
C14 date	cal AD160–420 (95.4%) (1780±34 BP, SUERC-75355/GU45157)
Skeleton 20543	
Orientation	-
Posture	-
Arm position	-
Sex	-
Age	Perinate, birth to 1 month
Completeness	40%
Preservation	Very good
Dental pathology	0 tooth positions, 0 teeth present
Pathology	-
Stature (mm)	-
C14 date	cal AD245–395 (95.4%) (1717±32 BP, SUERC-76673/GU45970)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 368 fish-hook; RF7651-RF7654 iron nails x4
Other finds	Pottery sherd x1(Fabric BAT AM1); pottery sherds x2 (Fabric BB1); pottery sherd x1(Fabric GRA15); pottery sherd x1 (Fabric GRA18); pottery sherd x1 (Fabric GRB2); pottery sherd x1 (Fabric GRB22); pottery sherd x1 (Fabric GRB42); pottery sherds x2 (Fabric GRC6); pottery sherd x1 (Fabric KOL); pottery sherds x2 (Fabric NV2); pottery sherd x1 (Fabric OAB); samian sherds x1 (Dr.37) samian sherds x8 (unidentified); undiagnostic ceramic building material fragments x5; fired clay; flint flake x1; magnetic matter; fuel; hammerscale
Environmental	Charcoal; CPR, animal bone (sheep/goat, pig, galliform)
Interpretative date	Early to mid-4th century

Grave 20621, Brompton West

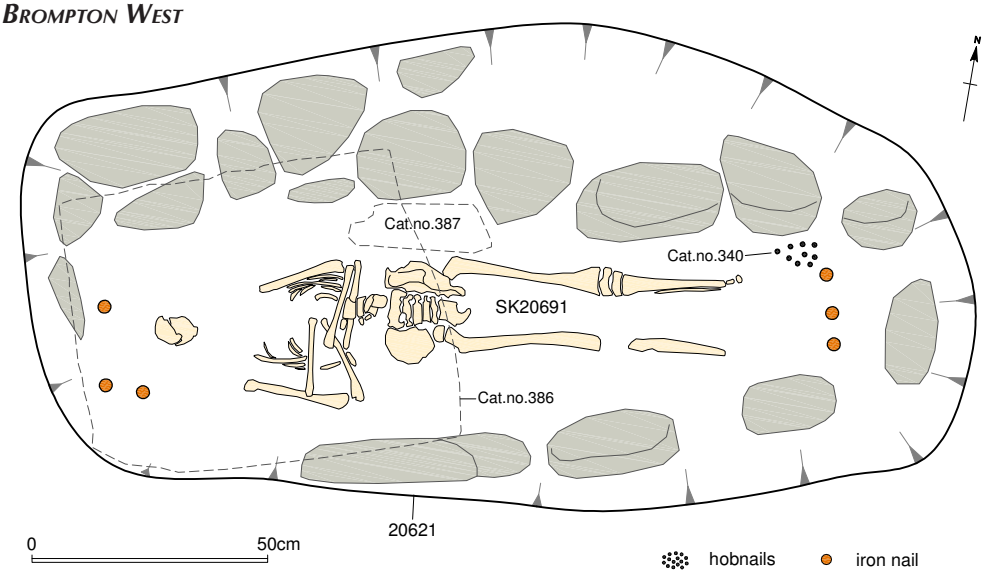


Figure 4.53: Cataractonium: plan of Grave 20621 at Brompton West.

Grave **20621** had been cut into the rampart (**20756**) that formed part of the redundant Antonine defences (Fig. 4.33). It seems likely that the rampart survived as an earthwork at the time the burial was inserted and may therefore have functioned as a plot boundary. The grave had an almost complete stone lining around the base formed by large rounded cobbles, into which the individual had been interred in a coffin (Fig. 4.53). The coffin was up to 1.5m long and 0.3m wide. It had been nailed at the head and foot ends using at least nine nails, but not the long sides. Two stone roof tiles overlay the coffin at the head end of the grave. One of the tiles was exceptionally large (19.2kg; Fig. 4.54) and was fully supported by the cobble lining. The second was incomplete and had been partially supported by the coffin. Nailed shoes had been placed outside the coffin but beside and to the left of the feet.

Table 4.29: grave catalogue for Grave 20621, Brompton West.

Grave cut 20621	
Orientation	ENE-WSW
Max. dimensions	L: 2m, W: 0.97m, D: 0.60m
Associated contexts	Upper grave fill 20622; fill of cist 20692
Skeleton 20691	
Orientation	Head to WSW
Posture	Supine, extended
Arm position	Flexed over the chest, crossed left over right
Sex	-
Age	7-12 years
Completeness	70%
Preservation	Poor
Dental pathology	0 tooth positions, 10 teeth present, 7/10 teeth with DEH
Pathology	-
Stature (mm)	-
C14 date	cal AD170–420 (95.4%) (1818±34 BP, SUERC-75339/GU45416)
Grave contents	
Coffin and cist	The coffin had at least nine nails (RF7661, 7662, 7663, 7677, 7678, 7679) and a plank thickness of c.30mm. It was deposited within a stone-lined grave with a sandstone roof tile lid Cat. no. 386–387 at the head end
Ceramic vessel	-
Grave goods	Cat. no. 340 nailed footwear represented by x33 (minimum) hobnails
Other finds	Pottery sherd x1 (Fabric FLA7); pottery sherds x2 (Fabric FLA8); pottery sherd x1 (Fabric FLB1); pottery sherd x1 (Fabric GRA6); pottery sherd x1 (Fabric GRB); pottery sherd x1 (Fabric GRB2); pottery sherds x2 (Fabric NV2); samian pottery sherds x2 (DR18/31); magnetic matter
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle, pig)
Interpretative date	Early to mid-4th century

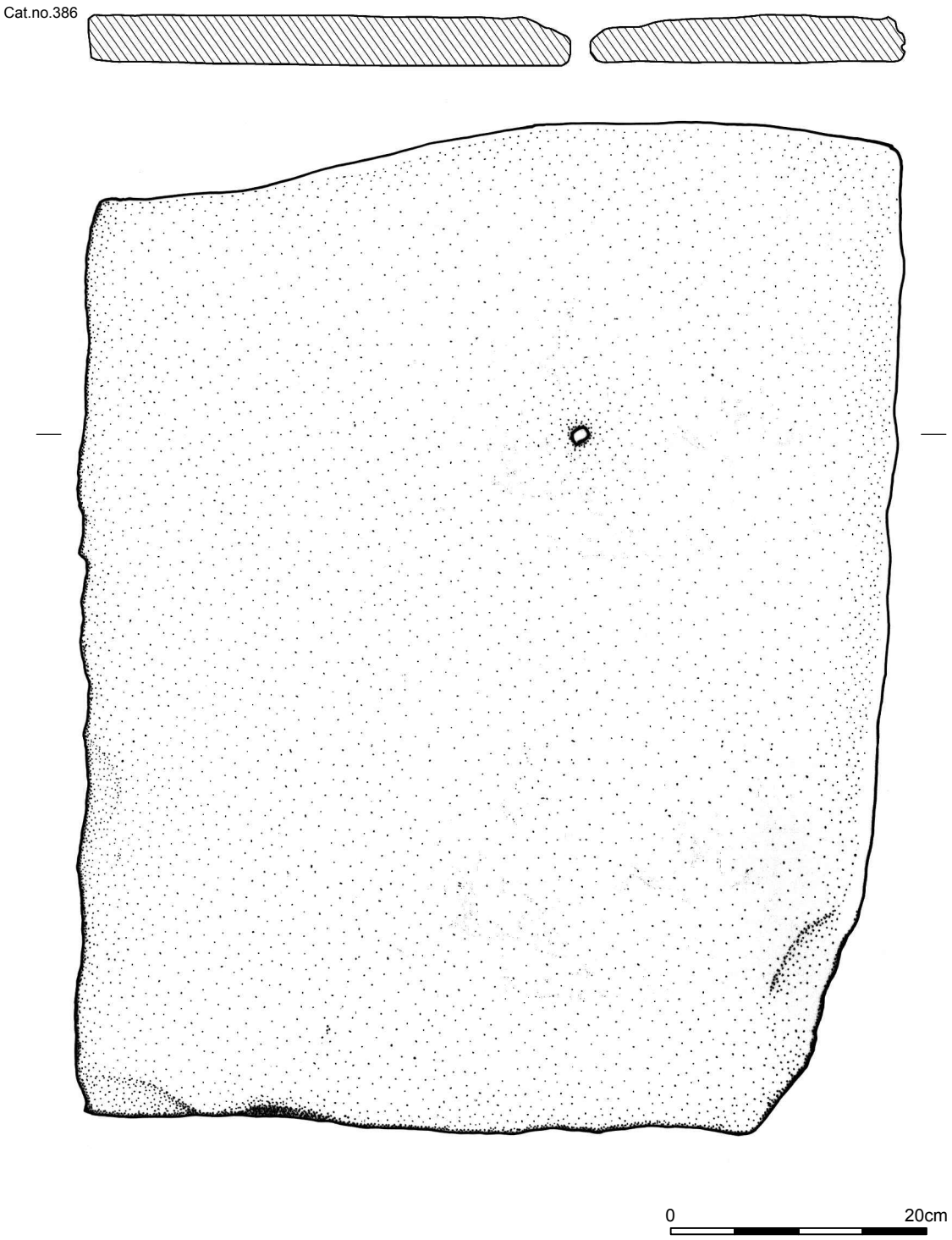


Figure 4.54: Cataractonium: stone roof tile used as a cist lid in Grave 20621.

Grave 20340, Brompton West

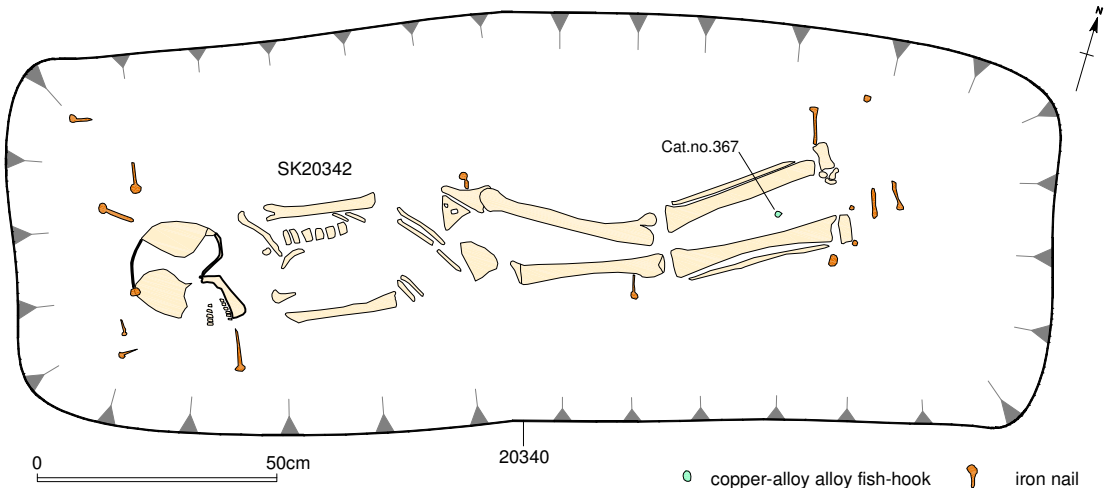


Figure 4.55: Cataractonium: plan of Grave 20340 at Brompton West.

Grave **20340** was located at the northern edge of the row of back plots and had been cut into the top of the infilled ditch (**20348**) that had formed part of the former Antonine defences (Fig. 4.33). The location of the grave had probably been influenced by the remains of the associated rampart (**20756**), which survived to some extent during the 4th century, and probably still functioned as a boundary within the settlement.

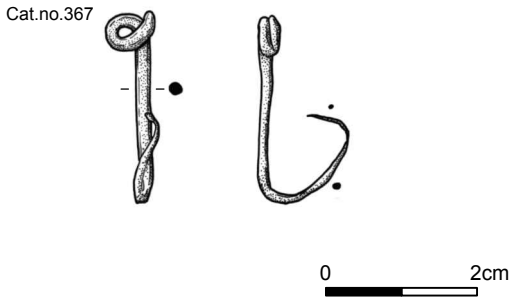


Figure 4.56: Cataractonium: a fish-hook from Grave 20340.

The individual (Skeleton 20342) was interred in a coffin that was 1.6m long and 0.4m wide, which had been constructed using 16 nails. Their location suggested the majority had been used to affix the end panels (Fig. 4.55). Three nails located to the side of the individual (two to the left and one to the right) are likely to have fixed the base board. As with Grave **20532**, a fish-hook (Cat. no. 367; Fig. 4.56) had been placed between the legs of the individual. Nine hobnails (Cat. no. 359) were recovered from the fill of the grave, although these may have been residual as they were dispersed through the grave fill.

Grave 20417, Brompton West

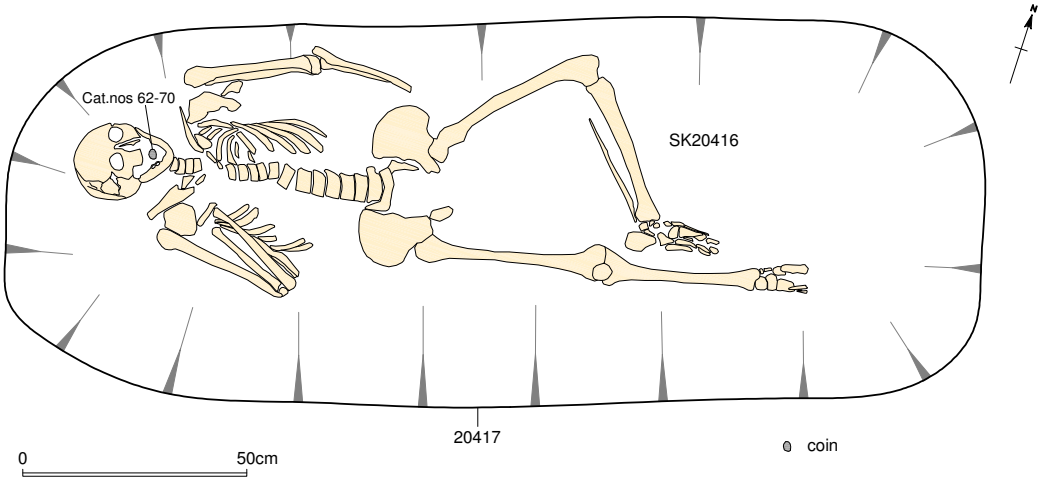


Figure 4.57: Cataractonium: plan of Grave 20417 at Brompton West.

Grave **20417** had been cut into the northern edge of the infilled Antonine defensive ditch (Figs. 4.33 and 4.57) and, as with Grave **20340**, was likely aligned with reference to the upstanding remains of the associated rampart (20756). The individual had been interred with a stack of nine coins in the mouth (Figs. 4.58 and 4.59), which dated the burial to soon after AD325 (see Brickstock, Chapter 8).

Table 4.30: grave catalogue for Grave 20340, Brompton West.

Grave cut 20340	
Orientation	ENE-WSW
Max. dimensions	L: 2.0m, W: 0.74m, D: 0.4m
Associated contexts	Grave fill 20341
Skeleton 20342	
Orientation	Head to WSW
Posture	Extended, supine although inclined to the right, head facing right
Arm position	Semi-flexed across abdomen
Sex	Female
Age	18-25 years
Completeness	70%
Preservation	Very Poor
Dental pathology	10 tooth positions, 31 teeth present, 1/31 teeth with calculus flecks, DEH on 20/31 teeth
Pathology	-
Stature (mm)	1535±36.6
C14 date	cal AD241–427 (95.4%) (1765±30, SUERC-75416/GU45165R)
Grave contents	
Coffin	The coffin was constructed using 16 nails (RF7488-7490, 7494, 7495,7498-7506, 7508-7509); their locations suggested it had been nailed from the ends
Ceramic vessel	-
Grave goods	Cat. no. 367 copper-alloy possible fish-hook
Other finds	Pottery sherds x3 (Fabric BB1); pottery sherds x2 (Fabric FLB1); pottery sherds x2 (Fabric FLB2); pottery sherds x2 (Fabric GRA6); pottery sherd x1 (Fabric GRB16); pottery sherd x1 (Fabric GRB2); pottery sherd x1 (Fabric GRB6); pottery sherd x1 (Fabric GRC12); pottery sherds x2 (Fabric NV1); pottery sherd x2 (Fabric OAB1); pottery sherd x1 (Fabric OBB); samian sherds x1 (Dr.37); samian sherds x7 (unidentified); RF13651, 13652 hobnails x9; glass; magnetic matter; hammerscale; fired clay
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle, pig, equid)
Interpretative date	Early to mid-4th century

Figure 4.58: Cataractonium: Grave 20417 and the earlier defensive ditch.

Table 4.31: grave catalogue for Grave 20417, Brompton West.

Grave cut 20417	
Orientation	ENE-WSW
Max. dimensions	L: 2.17m W: 0.85m D: 0.42m
Associated contexts	Grave fill 20415
Skeleton 20416	
Orientation	Head to WSW
Posture	Extended, supine, right leg straight, left leg semi-flexed with the foot towards the right knee
Arm position	Left arm straight, right arm tightly flexed over the chest
Sex	Male
Age	36–45 years
Completeness	100%
Preservation	Moderate
Dental pathology	19 tooth positions, 24 teeth present, 2/19 lost post-mortem, 2/19 lost ante-mortem, 1/24 teeth broken 23/24 teeth with calculus, flecks to moderate deposits, DEH on 5/24 teeth, 4/19 tooth positions NP, externally draining abscess on the left maxilla, moderate periodontal disease. The entire crown of the left maxillary first premolar had been broken off, with the remaining exposed root exhibiting a polished/worn appearance
Pathology	Schmorl's nodes in the thoracic spine. DJC in the cervical, thoracic, and lumbar spine, and both proximal femora. T1 and T2 both exhibited small crescent shaped lesions on the antero-inferior margin of the body, in both cases the margins of the lesions were irregular but smooth, measuring between 7–10.5mm in diameter, potentially disc herniations, or avulsion of the annular rings. Bilateral hypoplasia of the femoral necks. Both femoral necks were short, with slight inferior angulation of the heads, which were not so shortened and inferiorly angulated as to have coxa vara. The left femoral fovea was not particularly deep and appeared to be partially infilled
Stature (mm)	1637.5±3.27
C14 date	231–392 cal AD (95.4%) (1737±34 BP, SUERC-75356/GU45158)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 62–70 stack of nine coins (minted AD 309–24) in the mouth
Other finds	Pottery sherds x1 (Fabric CRA RE); pottery sherd x1 (Fabric GRA6); pottery sherd x1 (Fabric GRB16); pottery sherd x2 (Fabric GRB2); pottery sherd x1 (Fabric GRB6); pottery sherds x2 (Fabric KOL); pottery sherd x1 (MCRA WH); pottery sherd x1 (Fabric OAB); samian sherds x1 (DR.31); samian sherd x1 (WA79); Cat. no. 360 iron hobnail; glass; magnetic matter; hammerscale
Environmental	Charcoal; CPR; animal bone (sheep/goat, cattle, pig, small rodent)
Interpretative date	AD325/326±2

Figure 4.59: Cataractonium: stack of nine coins recovered from the mouth of the occupant of Grave 20417.

Figure 4.59 (cont.): Cataractonium: stack of nine coins recovered from the mouth of the occupant of Grave 20417.

Grave 20159, Brompton West

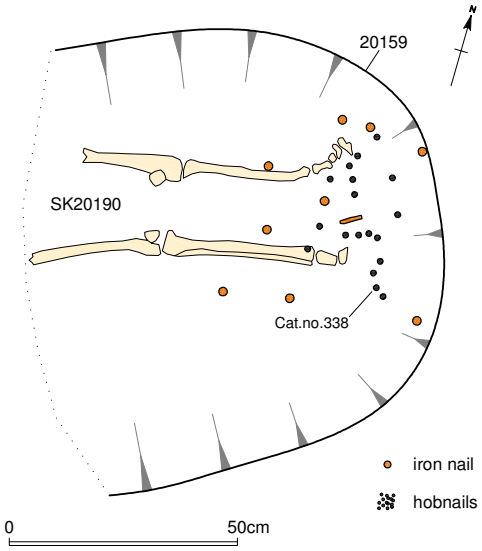


Figure 4.60: Cataractonium: plan of Grave 20159 at Brompton West.

Grave **20159** had probably been recognised during excavation of a drain trench in 1978 (discussed above), which had removed the upper half of Skeleton 20190 (Fig. 4.60). The burial was located at a distance from any demonstrably Roman features, but occupied the same alignment as the burials to the south (Fig. 4.33). It may have been associated with a plot boundary, such as a hedge or a fence supported on shallow posts that had little impact beyond the ancient topsoil. The individual had been interred in a coffin and was wearing nailed footwear.

Table 4.32: grave catalogue for Grave 20159, Brompton West.

Grave cut 20159	
Orientation	ESE-WNW
Max. dimensions	L: 0.8m, W: 0.5m, D: 0.8m
Associated contexts	Primary grave fill 20158; secondary grave fill 20157
Skeleton 20190	
Orientation	Head to WNW
Posture	Extended, supine
Arm position	-
Sex	-
Age	18+ years
Completeness	30%
Preservation	Moderate
Dental pathology	-
Pathology	Trauma to the capsular attachment of the right ankle; ossified spicules were evident on the posterior margin of the posterior/inferior calcaneal facet on the talus and the posterior margin of the posterior talar articular surface of the calcaneus, around the margin of the capsular ligament. Identical spicules of bone were also identified on the distal right tibia, on the antero-lateral margin of the capsular attachment
Stature (mm)	-
C14 date	cal AD140–420 (95.4%) (1799±34 BP, SUERC-75363/GU45162)
Grave contents	
Coffin	The coffin had at least 14 nails (RF7443-7448, 7453, 7456-7459, 7462, 7464, 7473, 7475), and a plank thickness of c.35mm
Ceramic vessel	-
Grave goods	Cat. no. 338 nailed footwear represented by x 70 (minimum) hobnails (both feet)
Other finds	Pottery sherds x2(Fabric GRC1); pottery sherd x1 (Fabric GRC); samian sherd x1 (Dr.38); samian sherds x2 (unidentified); undiagnostic ceramic building material fragments x4; glass
Environmental	Charcoal; CPR; animal bone (sheep/goat, unidentified animal bone)
Interpretative date	Late 3rd to 4th century

Grave 20198, Brompton West

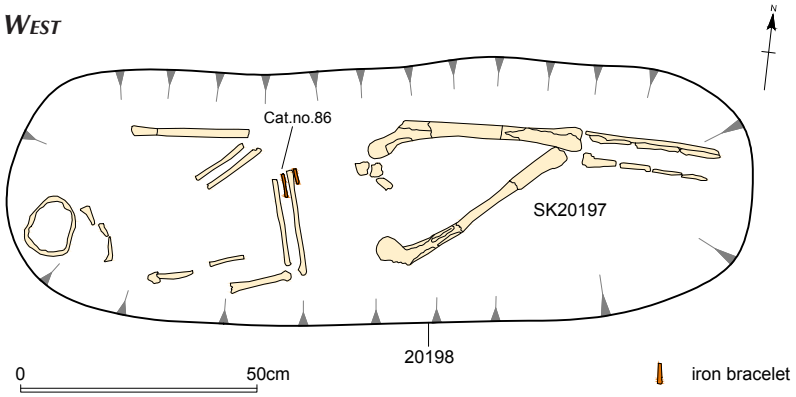


Figure 4.61: Cataractonium: plan of Grave 20198 at Brompton West.

Grave **20198** was located in a similar context to Grave **20159**, being situated at a distance from any archaeologically demonstrable features, but sharing the common alignment of the burials to the south (Fig. 4.33).

Skeleton 20197 had been interred wearing an iron bracelet on the wrist of the right arm, which survived in three fragments (Cat. no. 86; Fig. 4.61).

Table 4.33: grave catalogue for Grave 20198, Brompton West.

Grave cut 20198	
Orientation	ENE-WSW
Max. Dimensions	L: 1.56m, W: 0.54m, D: 0.14m
Associated contexts	Grave fill 20196
Skeleton 20197	
Orientation	Head to WSW
Posture	Extended, supine, legs crossed?
Arm position	Right arm flexed at 90° across abdomen, left arm flexed across chest
Sex	Female
Age	18+ years
Completeness	60%
Preservation	Very Poor
Dental pathology	0 tooth positions, 7 teeth present.
Pathology	DJD in the right acetabulum, and both proximal femora
Stature (mm)	-
C14 date	134–334 cal AD (95.4%) (1784±34 BP, SUERC-75357/GU45159)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 86 iron bracelet from right arm
Other finds	Magnetic matter; hammerscale
Environmental	Charcoal; CPR; animal bone (cattle, unidentified animal bone)
Interpretative date	Early to mid-4th century

Group burial

Grave 20114, Brompton West

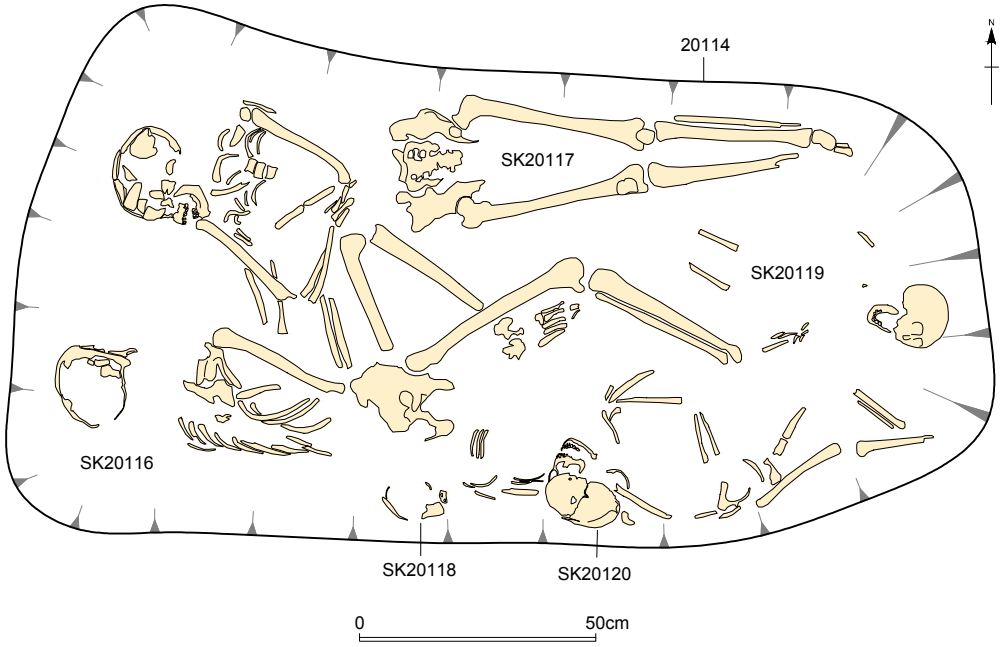


Figure 4.62: Cataractonium: plan of Grave 20114 at Brompton West.

Grave **20114** was located at a distance to the north of the core of the settlement, and respected the orientation of an adjacent enclosure ditch (**20104**), with its alignment differing slightly from the other inhumations at Brompton West (Fig. 4.33).

The grave contained the remains of five individuals (Figs. 4.62 and 4.63), including an adult male and female, along with three juveniles. This demographic may represent a family group, although DNA testing would be required to prove this conclusively. However, the burial position of the two adults adds further credence to this interpretation, as they were carefully positioned to face one another, with the right arm of the adult female (Skeleton 20117) placed over the left arm of the male (Skeleton 20116) and resting against his left knee. Two of the juveniles had been placed behind the adult male (Skeletons 20118 and 20120) and against the edge of the grave, with one resting their head on the other. The third and smallest of the juveniles (Skeleton 20119) had been placed between the legs of the two adults, with the head to the east.

Figure 4.63 (left): Cataractonium: Grave 20114, viewed from the east.

Table 4.34: grave catalogue for Grave 20114, Brompton West.

Grave cut 20114	
Orientation	E-W
Max. dimensions	L: 2.0m, W: 1.0m, D: 0.15m
Associated contexts	Grave fill 20115
Skeleton 20116	
Orientation	Head to W
Posture	Lying on left side, extended, right leg extended, left leg flexed at knee 90° to body, left foot beneath right knee
Arm position	Right arm flexed away from right side, lying beneath right arm of skeleton 20117, left arm flexed beneath torso
Sex	Male
Age	46+ years
Completeness	80%
Preservation	Poor
Dental pathology	15 tooth positions, 4 teeth present, 10 lost ante-mortem, 1 not present. Calculus on 4/4 teeth, slight to heavy deposits, moderate periodontal disease, heavily slanted wear on the left mandibular canine and the left mandibular first premolar
Pathology	DJD in the left lateral clavicle, the right proximal humerus, and auricular surface, both proximal femora, the distal articulation of the right first metatarsal, cervical and thoracic bodies, and thoracic articular facets. OA in the cervical, thoracic and lumbar spine. Schmorl's nodes in the thoracic spine. Possible well remodelled OD on the distal articulation of the right humerus, with a smooth circular indentation contiguous with the articular surface, located on the posterior surface of the trochlea, which measured 4.1mm in diameter, alternatively the lesion may have been a cortical defect
Stature (mm)	1666±32.7
C14 date	cal AD144–154 (1.0%), cal AD168–195 (3.2%), cal AD210–385 (91.2%) (1758±34 BP, SUERC-75358/GU45160)
Skeleton 20117	
Orientation	Head to W
Posture	Extended, supine, head facing right
Arm position	Both arms flexed over torso
Sex	Female
Age	26–35 years
Completeness	70%
Preservation	Poor
Dental pathology	15 tooth positions, 23 teeth present, 1 lost post-mortem, 4 lost ante-mortem, 14/23 teeth had calculus, flecks to heavy deposits, 2 caries on 2 teeth, 16/23 teeth had DEH, 1/15 teeth not present
Pathology	Spondylolysis of the fifth lumbar vertebra. Only the left side of the body survived, however; the inferior surface of the pedicle was generally smooth with a slightly roughened and irregular appearance. The surface of the avulsed fragment was also speculated and irregular, but with a generally smooth appearance
Stature (mm)	1583±37.2
C14 date	cal AD224–391 (95.4%) (1742±34 BP, SUERC-75364/GU45163)

Table 4.34 (cont.): grave catalogue for Grave 20114, Brompton West.

Skeleton 20118	
Orientation	Head to W
Posture	Lying on left side, extended
Arm position	Right arm extended, left arm flexed beneath torso
Sex	-
Age	1–6 years
Completeness	60%
Preservation	Moderate
Dental pathology	8 tooth positions, 20 teeth present, 1/20 teeth had calculus flecks, enamel chips on the mandibular left central, and right lateral incisors
Pathology	-
Stature (mm)	-
C14 date	cal AD243–395 (95.4%) (1719±34 BP, SUERC-75368/GU45167)
Skeleton 20119	
Orientation	Head to E
Posture	Extended, supine
Arm position	-
Sex	-
Age	1–6 years
Completeness	20%
Preservation	Poor
Dental pathology	0 tooth positions, 8 teeth present, 1/8 teeth had calculus flecks
Pathology	-
Stature (mm)	-
C14 date	cal AD247–395 (95.4%) (1715±32 BP, SUERC-76675/GU45972)
Skeleton 20120	
Orientation	Head to W
Posture	Extended, prone
Arm position	Extended
Sex	-
Age	1–6 years
Completeness	24%
Preservation	Moderate
Dental pathology	0 tooth positions, 14 teeth present, and 3 unerupted crowns
Pathology	-
Stature (mm)	-
C14 date	cal AD249–402 (95.4%) (1707±34 BP, SUERC-75367/GU45166)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x2 (Fabric GRB16); iron fragment; flint debitage x1; undiagnostic ceramic building material fragments x5; magnetic matter; fired clay; hammerscale
Environmental	Charcoal; CPR; animal bone (cattle)
Interpretative date	Early to mid-4th century

Cremation burial

Grave 20106, Brompton West

Figure 4.64: Cataractonium: plan of Grave 20106 at Brompton West.

Grave **20106** contained an elaborate cremation burial (Fig. 4.64), which had been interred c.100m from the core of the settlement to the south (Fig. 4.33). The grave was located 7m to the east of group burial Grave **20114** and 4m to the north of ditch **20104**.

The cremation deposit (**20107**/**20109**) included fragments of bone inlay and 108 nails (Fig. 4.65), suggesting the individual may have been placed on a decorated bier on the pyre, possibly with a canopy (see Chapter 8). The individual had also been accompanied by nailed footwear and possibly a wreath of strongly perfumed white flowers (*Galium odoratum*; see Baines, Chapter 9). The base of a pipe clay figurine had been included with the cremation deposit. The figurine did not appear burnt, suggesting it had been located at the periphery of the pyre during cremation, or had perhaps been a grave good rather than a pyre good.

Table 4.35: grave catalogue for Grave 20106, Brompton West.

Grave cut 20106	
Shape	Sub-rectangular
Max. dimensions	L: 0.4m, W: 0.22m, D: 0.22m
Associated contexts	-
Cremation deposit 20107/20109	
Weight (g)	176.3
Largest fragment (mm)	13.9
Identified elements	Skull, axial, upper limb, lower limb, long bone
Colour	White, greyish and black
Age	Adolescent, 13-17 years old
Sex	-
C14 date	-
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 420 nailed footwear represented by x5 hobnails; Cat. no. 430 bone loop/ring; Cat. no. 421 pipe clay figurine; Cat. no. 425 funerary bed represented by bone veneer/inlay and 108 iron nails (RF7412-7419, RF7422-7435)
Other finds	Pottery sherd x1 (Fabric GBB1); pottery sherds x2 (Fabric GRA3); undiagnostic lava stone fragments possibly from a quern; magnetic matter; hammerscale
Environmental	Charcoal; CPR; 261 *Galium odoratum* seeds—sweet-scented bedstraw seeds that are likely the remains of a wreath (it is a strongly perfumed small white flower)
Interpretative date	Late 3rd to 4th century

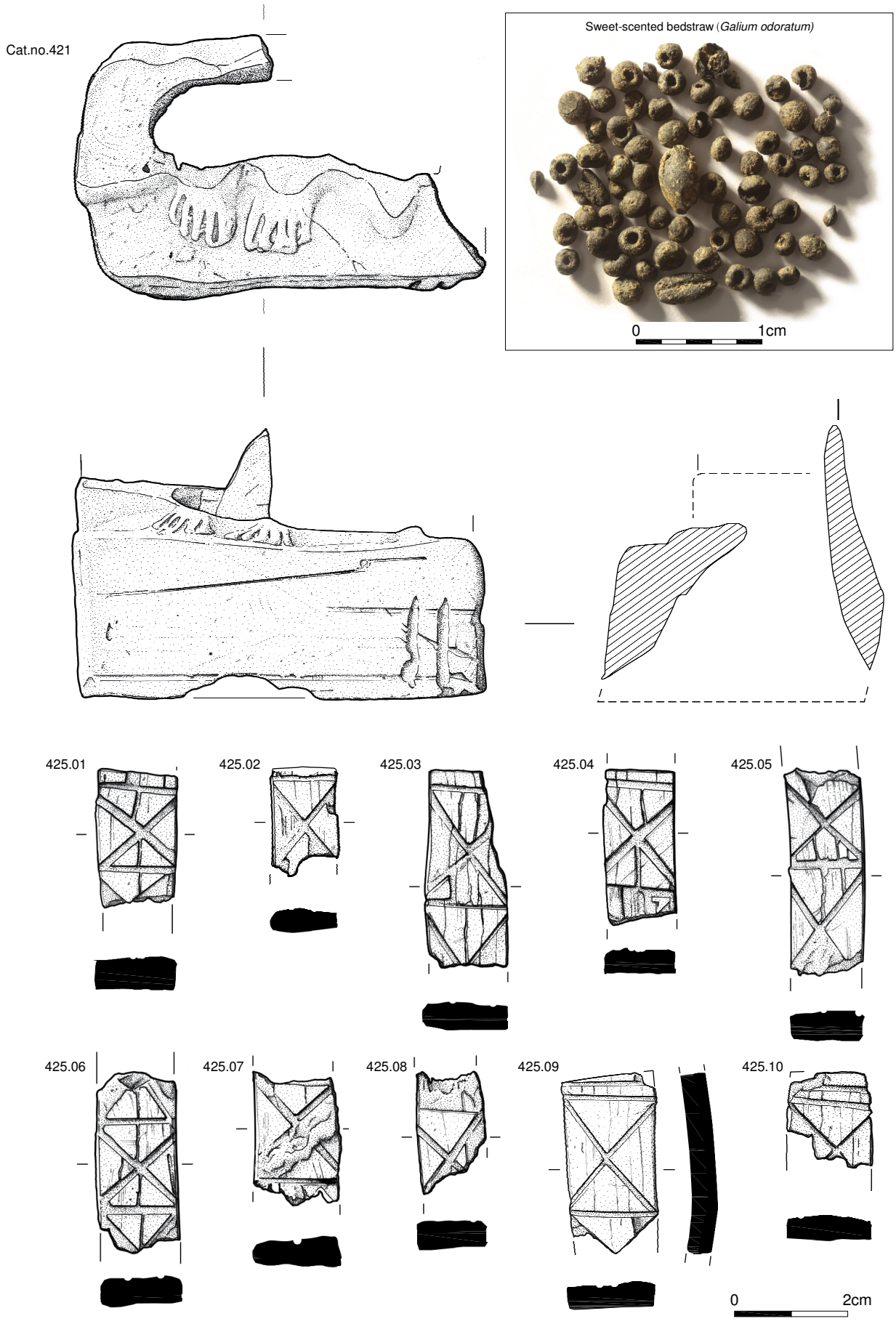


Figure 4.65: Cataractonium: part of the assemblage of pyre goods from Grave 20106.

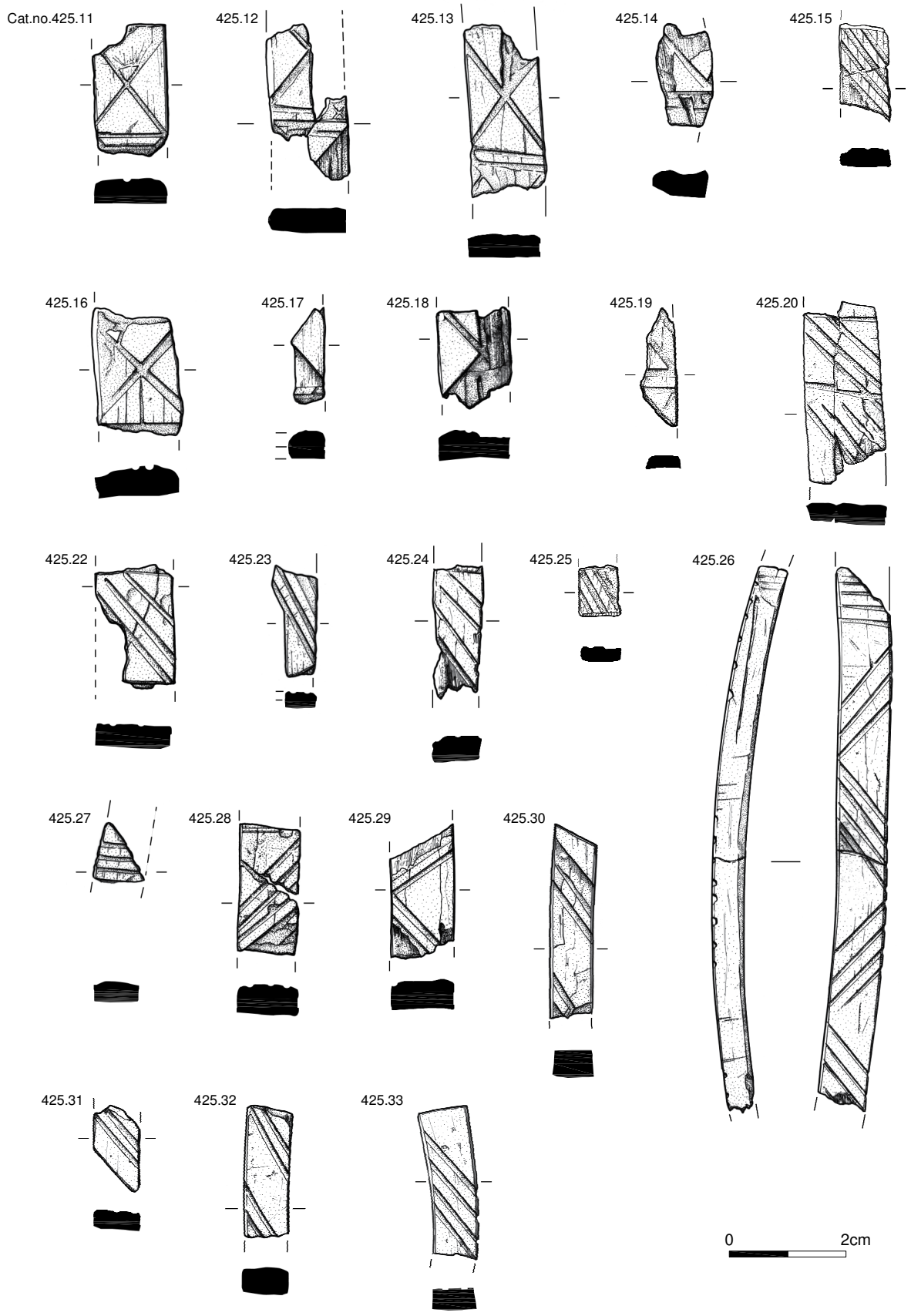


Figure 4.65 (cont.): Cataractonium: part of the assemblage of pyre goods from Grave 20106.

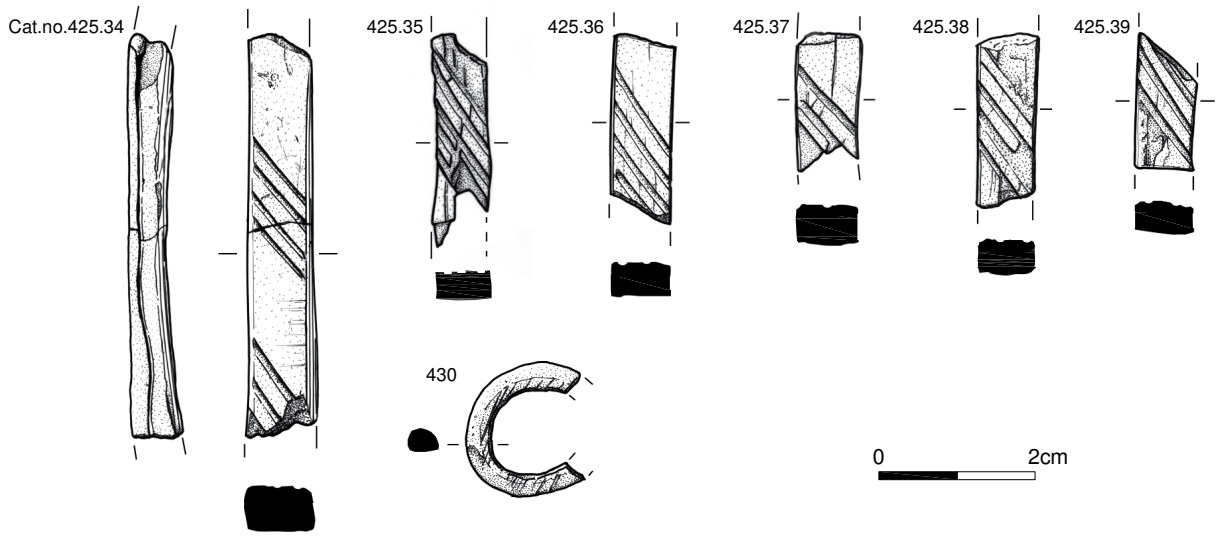


Figure 4.65 (cont.): Cataractonium: part of the assemblage of pyre goods from Grave 20106.

DISARTICULATED HUMAN REMAINS

In addition to the burials discussed above, disarticulated human remains were recovered from non-funerary contexts at Catterick Racecourse (Field 174), Thornborough Farm (Field 175), Fort Bridge (Field 176FB), Agricola Bridge (Field 176EC), Brompton West (Field 177/178) and Brompton East (Field 179). The location of these areas is illustrated on Figure 4.2 and a table listing these remains appears in Appendix E, to be found on the ADS.

DISCUSSION

Aspects of the funerary activity specific to the immediate *Cataractonium* area are described below. Other rites observed in the burial assemblages are discussed together with the results of demographic analysis of the human remains, and how they compare to the burials found on other parts of the scheme, in Chapter 11.

SPATIAL AND CHRONOLOGICAL DISTRIBUTION OF BURIALS AT CATARACTONIUM

The burials described in this chapter were found in five distinct contexts: inside the early *vicus* to the east of the Flavian fort; in the town which subsequently developed in the same area; in the area of settlement flanking Dere Street to the north of the Swale; within back plots behind that settlement; and in a discrete cemetery to the south of the town.

The earliest burials found by the A1 scheme excavations at *Cataractonium* date from the early 2nd century and comprised a perinate buried near the edge of the *vicus* to the east of the Flavian fort, and single inhumation and cremation burials located behind street-front ribbon development on the north bank of the River Swale. Later in the 2nd century, three perinates/neonates were buried in the infilled ditches of the short-lived Antonine defences surrounding the settlement on either side of the river. By the end of the 2nd century, cremation burials were taking place in a small, short-lived cemetery to the south-east of the fort at Brough Park.

Third-century burials found at *Cataractonium* were limited to a cremation burial and a foetus interred within the settlement to the south of the river, and a neonate buried inside a building to the north of the river. In contrast, 20 graves dated to the late 3rd/4th century were excavated at Brompton West in areas located behind the contemporary roadside settlement on the north bank of the Swale.

The results from the A1 scheme and from previous excavations all suggest that occasional burial of neonates/infants and cremated remains was considered acceptable within the confines of the core settlement at *Cataractonium* from its origins in the later 1st century up until at least the late 3rd/early 4th century, but that the vast majority of burials (including all unburnt older children and adults) took place elsewhere. To date, only six in situ neonate/infant burials and two cremation burials (one urned and one contained in a glass bottle) have been found within the settlement area. A similar picture was recognised within the street-front occupation on the north bank of the Swale, where single neonate burials were found by both Wacher's 1972 excavation and the Brompton East excavation, in addition to a single cremation burial that was placed in a back-plot area (Grave **20400**). Disarticulated human bone was found within the lower parts of the stratigraphic sequence in several settlement areas at *Cataractonium* investigated as part of the A1 scheme (and also in the Catterick 1972 excavation; Wilson and Wacher 2002, 128). However, no

evidence for early Roman adult inhumation burials has been found despite full excavation down to the natural subsoil, and the source of this material remains unknown. Evidence for adult inhumations in the immediate vicinity of the settlement during the earlier part of the Roman period is limited to a single back-plot burial at Brompton West (Grave **20955**); however, given its unusual form (discussed further below), this cannot be described as 'normal'. Where the vast majority of the inhabitants of the settlement were buried before the later 3rd century remains unknown. It seems unlikely that they would have been transported over 2km to the cemetery at Bainesse, given the availability of land around *Cataractonium*.

There was clearly a significant dislocation in burial sites to the north of the River Swale from the later 3rd century. The A1 excavations found 20 burials (24 individuals) that can be confidently dated to the late 3rd to 4th century. To these can be added the 51 inhumations of certain or probable 4th- to early 5th-century date found by earlier excavations at the Thomas Armstrong concrete block factory, Catterick Bridge and Hollow Banks Farm. A cremation burial from Catterick Bridge was probably also of similar date (although this contained a brooch of 3rd-century type). The burials found at Honey Pot Road and within the adjacent drain trench were undated (Wilson 2002a, 205–8). However, given the overwhelmingly 4th-century date of the nearby burials excavated at Brompton West, these too may also be of later Roman date, as this area does not seem to have been used for burial in earlier centuries. Many of the later Roman burials were located in places that appear to have still been in use, at least intermittently, for non-funerary purposes, and were certainly not derelict land. At the Thomas Armstrong site, the burials (uncertainly placed in a 'back-plot' area) were cut through an area formerly occupied by buildings, but were themselves covered by a subsequent phase of structures (Speed 2004). At Catterick Bridge there was also some evidence of continued exploitation of the area for other uses, with the burials mainly restricted to the periphery of the enclosures (Wilson 2002a, 190–204).

INHUMATIONS

Infant burials

Individual neonate burials (excluding infants interred with an adult) recorded by the A1 scheme at *Cataractonium* were found in two broad contexts, both of which were located away from burial sites used for older individuals (cf. Philpott 1991, 97). Three burials in areas of settlement, Graves **21904** and **21162** at Fort Bridge and Grave **9343** at Brompton East, were located inside the footprints of buildings. Grave **21904** cut the central footing trench of a probable timber granary, and hence the burial must have taken place either early in the construction process (perhaps as a foundation deposit), below the raised floor of the building after it was built, or after the structure was decommissioned. Graves **21162** and **9343** were excavated through the floors of standing buildings. Infant burial in association with buildings is a recurrent feature throughout the Roman period in Britain, both on rural sites and in towns, and the remains are usually either located within foundation trenches or sealed under floors (Philpott 1991, 97 and 101), which has been suggested to represent a continuing connection between mother and child (Millett and Gowland 2015, 185–6). However, at Healam Bridge, Burneston, North Yorkshire, neonatal burials were found concentrated in a back-plot area adjacent to what may have been a mausoleum (Ambrey *et al*. 2017, 139).

In contrast, Graves **21026** and **20200** to the north of the Swale had been cut into the upper fills of the disused Antonine defences and the outer boundary ditch, and infant (1–1.5yrs) burial P V 12 from the 1972 excavation had been inserted into the remains of one of the associated ramparts (Wilson and Wacher 2002, 128). Grave **18024** at Fort Bridge had also been cut into what was probably the Antonine defensive ditch on the southern side of the settlement. Prior to colonisation by new development, these locations may have represented areas of waste ground available for burials. Alternatively, particularly in the case of the larger ditches that represented boundaries to the settlement at various times, such locations would have had a liminal quality (Esmonde Cleary 2000, 137–8). Burial of infants along the lines of ditches was common on more rural sites (Philpott 1991, 98), and a number of examples of this practice were found at Wattle Syke, West Yorkshire, where the quantity of finds was enhanced by complete excavation of the enclosure ditches (Roberts 2013a, 111).

None of the newly discovered infant burials from *Cataractonium* were accompanied by grave goods, although an infant burial found during the 1950s excavations in the Roman town included a group of phallic amulets (Wilson and Wacher 2002, 74). This generally reflects the situation recorded at both other Yorkshire sites (e.g. Caffell and Holst 2013, 219; Ambrey *et al*. 2017) and nationally, where there is only limited furnishing of infant burials. This was perhaps because the child was not perceived to have been old enough to have developed its own identity (Philpott 1991, 99 and 101; Esmonde Cleary 2000, 135–6; but cf. Gowland 2016; Moore 2016), and perhaps also explains why they were buried in different locations to adults.

Minority burial customs

Grave **20955** contained the only prone burial found at *Cataractonium* that dates to the Roman period, although

other examples of this practice were found elsewhere on the A1 motorway scheme at Bainesse (Chapter 3) and Low Street (Chapter 5). As discussed in Chapter 3, although prone burial is more commonly found amongst later Roman inhumations, it occurred throughout the Roman period and beyond (Philpott 1991, 71; Haughton and Powlesland 1999, 91).

The prone burial at Brompton West (Grave **20955**) had been placed (or perhaps thrown) into the grave in an unusual position. Philpott (1991, 72–4) categorised prone burials into several groups, including those with 'signs of coercion' and 'hasty or careless' interments, and prone burials have been suggested to frequently display evidence for less respectful treatment of the remains (Taylor 2008, 101). Work in Rome has shown that the poor and those who did not deserve formal burial were "summarily dealt with" (*ibid*., 92), with the dead thrown unceremoniously into pits (*puticuli;* Toynbee 1971, 49). The prone burial at Brompton West is not unique in the Catterick area; another such burial was found at Low Street to the south of Bainesse during the A1 scheme (Chapter 5). However, the circumstances that led to these burials are impossible to determine from the available evidence. The presence of similar burials found across the A1 motorway scheme is discussed more fully in Chapter 11.

Group burials

Multiple burials are uncommon both amongst the Catterick Roman burial population and nationally. They usually comprise an adult (often a woman) buried with a neonate (e.g. Grave **20532** at Brompton West), and have normally been interpreted as death resulting from complications during or soon after childbirth (Philpott 1991, 99; Smith *et al*. 2018b), although this supposition has not been fully tested. Beyond this, it would be rare in a relatively small population for several people to have died within a sufficiently short space of time to allow for communal interment, and these burials are unusual. Where multiple adults or older children are involved, it can be suggested that the people in such burials were the victims of disease or, more rarely, interpersonal violence, although there was no evidence for either at *Cataractonium*. The Roman town has now produced two group burials, namely Grave **20114** at Brompton West and the burial of two adult individuals interred together in a rectangular grave pit to the north at Honey Pot Road (Wilson 2002a, 207). Both graves were located in the same area, i.e. beyond the settlement and associated back plots. Their peripheral placement perhaps suggests that the circumstances of the individuals' deaths meant that it was considered unsuitable to bury them closer to the settlement within a more 'domestic' back-plot context. However, in both cases, the funeral appears to have been undertaken with some care, as is commonly the case with such group burials. At Faverdale, near Darlington, an adult female and a child of c.2–4yrs had been carefully buried together in a double-sized, partially stone-lined rectangular grave (Proctor 2012, 67–8). Further afield, a 'family' group burial of either late 4th- or more likely early 5th-century date at Stour Street in Canterbury contained two adults and two children aged approximately eight and 12, who were accompanied by a variety of grave goods including bracelets, beads, keys, a razor and a dog (Bennett 1980, 406–8).

It is commonly presumed that the occupants of multiple graves were closely associated in some way and may have been family members. DNA analysis to determine any familial relationships between the occupants of Grave **20114** is currently being planned and will be published at a future date.

Finds from inhumation burials

Fish-hooks

The presence of possible fish-hooks in two of the burials (Graves **20340** and **20532**) at Brompton West was unexpected. Fish-hooks are rare finds on Romano-British sites, and have not previously been found amongst the repertoire of grave goods in Britain (see discussion in Chapter 8). The presence of examples in two broadly contemporary graves that were located relatively close by, each similarly placed between the legs of the deceased, confirms that they were not accidental inclusions and potentially suggests affinity between the two individuals. Whether their presence indicates that the individuals, both adult females, had an association with fishing, the fish-hooks had a symbolic meaning, or whether they had been employed for a more prosaic purpose such as surrogate shroud-pins, is impossible to determine.

Coins

The A1 scheme excavations found coins in association with several of the Roman burials at *Cataractonium*. There is also evidence from previous excavations in the area for the provision of coins in Roman graves. Thompson (2002) lists two coins found in grave 113 at Catterick Bridge, one near the waist and one behind the head, both of which are typical locations for deliberately placed items (Philpott 1991, table 44). Single coins were also found in graves 338, 679 and 754, although the positions of these are not supplied. A single coin was present in grave 113 at Catterick Racecourse. Less certain associations include a coin listed with a neonate burial at Thornborough Farm, although this was recovered from a layer rather than a distinct grave, and two coins found in grave 121 at the Thomas Armstrong concrete block factory, which were considered at the time to be

incidental inclusions in the grave fill (Speed 2004, 16). Small purse-hoards were found in graves 5 and 12 at Hollow Banks Farm and dated to the mid-4th century (Brickstock 2002). With the exception of the neonate at Thornborough Farm (which was not securely associated with the coin), all of the burials from earlier excavations are likely to be of mid- or late 4th-century date.

This apparent pattern of coin deposition in inhumations has been extended by the evidence from Graves **20417** and **20476** at Brompton West, and it appears to have been a common practice to the north of the river, appearing in perhaps 9–10% of inhumations of later Roman date. A rather higher proportion (3 of 6; 50%) of the cremation burials at Brough Park (Graves **6723**, **6782** and **6790**) contained coins. These burials probably all date to the 2nd to 3nd century. The other cremation burials found elsewhere at *Cataractonium* (including previously excavated examples) did not include coins, suggesting perhaps that the rite was 'local' to those at Brough Park. This proportion of late Roman graves containing coins at *Cataractonium* is similar to the proportion (c.10%) of burials containing coins at the well-furnished late Roman cemetery at Lankhills, Winchester (Reece 1979; Booth 2010).

Coins are not uncommon finds in Roman inhumations in Britain, and are usually found singly, or more rarely in pairs, typically placed in the mouth or hand of the deceased. Finds of large groups of coins in graves, on the other hand, are uncommon in Roman Britain (Philpott 1991, 213). A stack of nine coins, possibly originally deposited inside a purse and which have a suggested date of deposition of c.AD325 (Brickstock, Chapter 8), was found in the mouth of Skeleton 20416 in Grave **20417** at Brompton West. In the 4th century, there was an increase in the size of coin groups deposited (perhaps due to inflation devaluing the worth of individual coins), although such larger groups continued to be rare (Philpott 1991, 212–3). The occurrence of three large coin groups (nine, 24 and 44 coins) of broadly similar date (mid-4th century) in graves at Brompton West and nearby at Hollow Banks Farm is very unusual (amongst the far more numerous groups found at the Lankhills cemetery noted above the largest contained only seven coins) and perhaps suggestive of a localised tradition.

Nailed footwear

Nailed footwear has not previously been recorded in burials at *Cataractonium*. Excluding neonates, who would not have been expected to possess such equipment, evidence in the form of hobnails was recovered from four (20%) and perhaps as many as nine (45%) of twenty inhumations and six (67%) of nine cremation burials. The contrasting provision of nailed footwear across the excavated sites in the Catterick area will be discussed in more depth in Chapter 11. In the inhumation burials at Brompton West, shoes were worn in Graves **20159** and **20960**, but had been placed outside the coffin in Grave **20621**. The potential significance of the latter is discussed in Chapter 8.

CREMATION BURIALS

For a moderately large and long-lived Roman settlement, surprisingly few cremation burials have been found at *Cataractonium*. Compared to south-east England, where the predominant rite in the Late Iron Age and early Roman periods involved burning of the body, cremation may have been less popular in northern England, restricted in the main to military sites (Smith *et al*. 2018b); inhumation may, therefore, have been the prevailing norm, as suggested by the results of the excavation of the Bainesse cemetery (Chapter 3), and continuing what seems to have been the predominant Late Iron Age rite in the region (see Chapter 1). Alternatively, cremations may have been taking place, but most cremated human remains must have been buried in a cemetery that has yet to be located.

Most of the cremation burials that have been found at Brough Park, during the 1980s Catterick Bridge excavation, and further afield at Bainesse, are suggested to derive from the northern military cremation tradition (discussed further below) rather than any contemporary local civilian tradition, as demonstrated by the predominant inhumation rite observed in the cemetery and back-plot burials at Bainesse throughout the Roman period (see Chapter 3). As explored below, there was also a suggestion of a military connection to the cremation burial at Brompton West. This potentially leaves only three 'civilian' Roman cremation burials in the Catterick area, namely those found during the earlier excavations for the Catterick Bypass and at Scorton Quarry, and at Fort Bridge during the A1 scheme excavations. The cremation burial at Scorton Quarry (Speed 2009, 25) has been radiocarbon dated to the later 1st century, only slightly later than nearby Iron Age inhumations, and could represent a first-generation migrant to the area whose companions may have brought a 'Roman' way of conducting a funeral (typically the cremation rite at this early date) with them, either from southern England or the continent (Philpott 1991, 8; Smith *et al*. 2018b). The cremation deposits found inside a glass bottle at the Catterick Bypass (Wilson and Wacher 2002, 57) and in a pottery vessel at Fort Bridge, although dated slightly later to the early 2nd century, could perhaps constitute part of the same phenomenon. Both seem to have been located in relatively peripheral areas of the *vicus* at the time of their deposition, perhaps reflecting the illegality of burial within towns (Toynbee 1971, 48), but the grave sites

were subsequently sealed by the expanding settlement.

Cremation Grave 20106

Grave **20106** at Brompton West was distinguished in a number of ways from the other cremation deposits discovered during the A1 scheme. It contained numerous nails and fragments of decorative bone veneer, which probably formed parts of a decorated funerary bier. As noted by Croom (see Chapter 8), there is a correlation in northern England between military sites and cremation burials containing fragments of such decoration, with similar material recovered from cemeteries close to the forts at Birdoswald (Cool 2009; Cool *et al*. 2009, 290), Brougham (Greep 2004), Low Borrowbridge (cremation 527; Hair and Howard-Davis 1996, 108), and Malton (Buglass 2018, 2). Cool (2004, 464–5) has suggested that the fashion was introduced in the 3rd century, either from abroad or in emulation of the funeral of Septimius Severus at York in AD211.

The burial also included part of the base from a pipe clay figurine (Cat. no. 421; see Chapter 8). Such figurines have been found in non-funerary contexts at *Cataractonium*, both within the Roman town and also in the roadside settlement on the north bank of the Swale, and more widely across the north of Roman Britain (Cooper 2002; Walton 2004). They are occasionally discovered in funerary contexts, but this is the first instance of one having been found in a grave in the Catterick area.

Other aspects of this burial were also slightly unusual for *Cataractonium*. The burial had been placed into a small, neatly cut rectangular pit measuring 0.40m by 0.22m. Other cremation burials (except the *bustum*) at *Cataractonium*, Bainesse (Chapter 3) and Scurragh House (Chapter 5) were placed in circular or sub-circular pits, although interment of cremated remains in a rectangular cist has been recorded at Piercebridge (Brogan 2014, 12). It is possible that the remains in Grave **20106** were originally interred in an organic box or chest that has not survived, and which dictated the shape of the grave-pit. The location of the grave also differed from other cremation burials at *Cataractonium*, which have been found either grouped within cemeteries, or in settlement and associated back-plot areas. Grave **20106**, in contrast, was found beyond the area of the back-plots. The only burial nearby was the group inhumation in Grave **20114**, although this is not suggested to have any direct association with Grave **20106** beyond a similarity in location. Both burials were, however, close to ditch **20104**, which ran on a different alignment to the roadside enclosures and formed part of what geophysical survey shows to have been an apparently discrete rectangular enclosure to the west of the roadside settlement (Fig. 4.2). The majority of this enclosure was outside the area excavated by the A1 scheme, and its function remains unknown.

Brough Park (Field 172) cremation cemetery

The cremation burials at Brough Park were adjacent to, and to the north-east of, a north-west to south-east aligned ditch (**25021**). The ditch ran parallel to, and approximately 80m from, a road travelling south-east from the southern gateway of the Antonine fort towards Dere Street. Pottery excavated from what have been suggested to be roadside ditches at Catterick Racecourse and also from the parallel 'outer' ditch (**25021**) at Brough Park was consistent with an association between the road and fort. Ditched (and occasionally banked) corridors of similar width have been noted flanking roads elsewhere in the north and west of Roman Britain, particularly (but not exclusively) in the vicinity of forts and *vici*, and these 'delimiter' ditches have been suggested to represent official boundary lines separating the *vici* and roads from their surroundings (Ambrey *et al*. 2017, 105-6).

There has been relatively little investigation of Roman military cemeteries in Britain (Esmonde Cleary 2000, 129; Smith *et al*. 2018b), although it is clear that, at least in the north of the province, they were typically located adjacent to a road and placed beyond the *vicus* at some distance from the fort, as for example at Maryport (300m) and Birdoswald (400m), Brougham (400m), or High Rochester (700m) (Charlton and Mitcheson 1984, fig. 1; Cool 2004, fig. 1.1; Sommer 2006, 110). The burials at Brough Park (Field 172) were located 400m from the fort at *Cataractonium*, close to a road leading to it, and lay within what may have been land controlled by the military. The site therefore conforms closely to what might be regarded as a 'typical' location for a military cemetery associated with a fort.

The excavated burials lay at the 'back' of the delineated road corridor. Any more elaborate stone tombs would most probably have been sited near to the road where they would have been more visible to passers-by, for example those adjacent to Dere Street at High Rochester (Charlton and Mitcheson 1984, fig. 1) and the Stanegate at Corbridge (Gillam and Daniels 1961, 37–8). Evidence for any similar monuments at *Cataractonium* is likely to have been lost when the A1(T) was constructed in the 1950s.

Cremations in a *bustum*, where the pyre was located directly over a grave-shaped pit intended to catch the burnt remains of the deceased, charcoal from the pyre and any grave goods, are uncommon in Roman Britain and found mainly in central-eastern England and the northern military zone (McKinley 2017, 258). While Struck (2000, 92) has included *busta* in her list of possible categories of 'high status' burials in Roman Britain, and McKinley

(2006) has noted the potential cost, both financial and in effort, of such a cremation, the example excavated at Brough Park may better be considered as forming part of a 'military' funerary culture that was widespread across the northern military zone. Cremation was a common rite in the northern part of Roman Britain and has been shown to have continued into the 4th century at a number of fort sites, including Petty Knowes (High Rochester; Charlton and Mitcheson 1984, 19), Birdoswald (Cool *et al*. 2009, 291), Beckfoot (Caruana 2004, 154), and Norton (Buglass 2018) (see Fig. 1.7). Although the majority of cremation deposits at these sites had been collected from a pyre located elsewhere (a possible *ustrinum* has been found at Corbridge), *bustum* burials have been identified at all of these sites, as well as at Herd Hill (Petts 2009, 163).

The primary human remains within the *bustum* burial (Grave **6790**) displayed a wide range of states of combustion, while incomplete burning was also noted in the other five graves at Brough Park (see discussion in Chapter 6). Thompson *et al*. (2016) have shown that there appears to be a level of consistency of cremation practice across a sample of military sites in the northern part of Roman Britain that is distinct from sites elsewhere in the Empire and from other periods. The cremated bone in these 'military' burials typically exhibited similar incomplete oxidation patterns, suggesting similar pyre construction and fuel species, and common practices when tending the pyre and collecting the cremated remains. However, despite these common 'technical' aspects, the 'display' element of the cremation (grave goods, biers, etc.) could still show variation.

The wood charcoal recovered from Graves **6782** and **6790** included material from a wider range of taxa than normal (see Baines, Chapter 9), in addition to the oak that made up the bulk of the fuel. This could in part account for the poor combustion of the human remains. A similar pattern, combining a varied wood supply and variable calcination of the human remains, was noted in two cremation deposits at Scurragh House (Field 211; see Chapter 5). However, use of a varied wood supply was not restricted to potential military cremations and is found in clearly non-military contexts, such as cremation 49 at St Dunstan's Terrace, Canterbury, which contained an 'unusually diverse charcoal assemblage' (Weekes 2017a, 101). The potential 'military' origin of the burials at Brough Park is discussed further in Chapter 11.

Several of the burials at Brough Park contained relatively small weights of bone (as little as 150g in Grave **6782**). These 'token' deposits are a common feature in Roman cremation cemeteries and can form part of relatively elaborate burials (e.g. Wilmott 2010, 45). However, Polfer (2000, 30) has suggested that such features could represent 'single pyre debris pits', containing what was left over after selection of material to include in a burial elsewhere. While most of the expected quantity of cremated human bone after a cremation was recovered from the base of the *bustum* burial (Grave **6790**), the contents of most of the other graves (the possible exception being Grave **6782**) had clearly been transferred from a pyre site elsewhere. The use of an *ustrinum* close to the group of burials has been suggested above to account for the mixed contents of the upper part of Grave **6790**, and could also account for the presence of the remains of multiple individuals in Grave **6785**.

The natural subsoil in the area of the Brough Park burials contained outcrops of gravel with areas of soil in hollows in-between. The gravel outcrops included context **6797**, which was adjacent to the burials (Fig. 4.14). Areas of hard-standing, such as cobbled surfaces, have been recorded in Roman cemeteries elsewhere in Britain, including Corbridge and Binchester (Casey and Hoffman 1995; ASDU 2017, 3), while a cobbled surface found in association with pyre sites and *busta* at Pepper Hill, Kent, was suggested to represent an area for funerary feasting (Biddulph 2006a, 54). It is conceivable that the gravel outcrop at Brough Park was opportunistically used for a similar purpose.

DISARTICULATED HUMAN REMAINS

As noted above, disarticulated human bone was found in a range of non-funerary contexts dating from the whole of the Roman period and spread across many of the areas excavated at *Cataractonium*. This phenomenon is discussed further in Chapter 11. However, one group of material recovered at Agricola Bridge (Field 176EC) was somewhat unique.

An assemblage of disarticulated human bone derived from two or more individuals was recovered from a 'dark earth' layer (**1405**) overlying, and hence post-dating, stratified Roman deposits inside the walled Roman town. Dark earth deposits (thick, homogeneous soil layers often dark in colour) are a common feature of Roman urban areas in Britain, although their source (whether from rubbish dumping, cultivation or abandonment) is the subject of considerable debate (see Speed 2014, 23–4 for discussion). The human remains at Agricola Bridge presumably derived from disturbed burials nearby. The latest part of the stratified structural sequence appeared, pending full analysis, to extend up to the end of the Roman period (late 4th/early 5th century). Radiocarbon samples taken from duplicate femora from two different individuals provided dates of cal AD332–535 (94.8%; SUERC-75051) and cal AD320–560 (93.9%; SUERC-75053), indicating a probable late 4th to early 6th-century date for the burials. This period spans the late Roman/early post-Roman occupation of the town, and

the beginning of the Anglian period.

For most of the period of the Roman occupation of Britain, inhumation burial within towns was highly unusual, and was indeed illegal under Roman law (Toynbee 1971, 48). However, by the 4th century, intra-mural burial is documented at a number of towns and cities across the empire, including Ostia, Poitiers and London in the western provinces (Williams 2005, 58; Boin 2013, 89; Speed 2014, 25), and is well-attested in Rome from the 5th century. Burials were frequently placed in apparently derelict urban spaces, and in a number of instances burials have been found in association with disused public structures, such as baths and their precincts (Christie 2006, 253–4). In northern England, 33 human skeletons were found during excavation of the bathhouse at Chesters fort, and three more skeletons were discovered within the apse of the Temple of Antenociticus at Benwell in 1862 (Macdonald 1931; Simpson and Richmond 1941, 38). Similarly, the group of disarticulated material at Agricola Bridge was found near the later Roman bath house excavated in 1959.

For the Anglian period at Catterick, burials at Bainesse had been cut through the remains of Roman buildings (Wilson *et al*. 1996, 29–45; Sherlock 2017, 84), although whether this practice had any ritual significance, or was merely pragmatic use of wasteland rendered unsuitable for agriculture, is impossible to say. A similar scenario may have pertained at *Cataractonium*, although Anglian burials excavated by Hildyard at the southern edge of the settlement had been placed outside the circuit of the Roman town wall (*ibid*., 47–9).

CONCLUSION

The excavations at *Cataractonium* have provided greatly expanded, and in some instances provided completely new evidence for burial practices around the Roman fort and town. Infant burials and a cremation deposit had previously been found within the area of the town and to the north of the Swale, but the increased dataset permits us to examine in more detail the chronological and spatial distribution of these interments. Similarly, although a number of inhumation burials had been found during several excavations to the north of the river, the newly excavated back-plot burials at Brompton West have demonstrated greater variety in funerary rites and furnishings than seen previously, and significant differences (such as in the provision of nailed footwear) have been noted between the various areas. These differences will be explored more fully, and across the wider Catterick area, in Chapter 11.

Identification of a possible military cremation cemetery to the south of the fort represents an entirely new element to the topography of Roman *Cataractonium*. Almost nothing is known about activity to the east of the Roman town and to the south and west of its accompanying fort(s), but the evidence from Brough Park indicates the archaeological potential of these areas around the more extensively investigated settlement.

CHAPTER 5
LATE IRON AGE, ROMAN AND EARLY MEDIEVAL BURIALS OUTSIDE BAINESSE AND *CATARACTONIUM*

David W. Fell and Greg Speed

INTRODUCTION

Graves dating to the Late Iron Age, Roman and early medieval periods were found at three sites along the A1 scheme in addition to those at Bainesse and *Cataractonium* (Fig. 5.1). A Roman burial was found at Low Street (Field 261) to the south of the Bainesse Roman settlement. Roman graves were associated with a small Roman roadside settlement and large enclosure at Scurragh House (Fields 209–211), which lies midway between *Cataractonium* and Scotch Corner. Finally, a single grave of Early Roman date was found within the Late Iron Age and Early Roman settlement at Scotch Corner (Field 228), with early medieval burials also excavated near Scotch Corner (Field 265).

LOW STREET (FIELD 261)

A single inhumation was cut into an infilled Roman field boundary ditch, which was located approximately 10–20m east of the projected line of Dere Street (SE 2564 9500). The burial lay 2km to the south-east of the Roman settlement at Bainesse. Part of a ditched enclosure complex in the field to the east was identified via geophysical survey (Fig. 5.2). The enclosure complex was largely avoided by the A1 scheme, although where one of the boundary ditches was investigated it contained an assemblage of 1st-century Roman pottery. Another Roman enclosure complex was located 500m to the south-east in Field 262.

The grave was located within a shallow, sheltered natural gully, which sloped down to the north before opening out towards an area that once contained a pond. The burial site lay below the probable level of the Roman road, which followed the slightly higher ground on the western edge of the gully.

Grave **7181** was cut into the fill of ditch **7179**, which ran from east to west on a similar alignment to the adjacent enclosure complex. At the stripped level, the ditch was 0.9m wide, had a surviving depth of 0.35m, and was filled with greyish brown silty clay (**7180**) that contained a small assemblage of animal bone but no datable finds. The stones shown in Figure 5.3 formed part of the grave backfill and did not appear to be intentionally placed.

DISCUSSION

A first consideration for the Low Street burial is its 'isolated' status. Given the narrow linear road construction corridor in Field 261 (and hence the small sample of the archaeology in the vicinity) this apparent isolation may be illusory. Other groups of burials within the study area, for instance at Bainesse Cemetery and Hollow Banks Farm near *Cataractonium*, were each initially identified by evaluation trenching as single burials, with no indication of the presence of further interments nearby

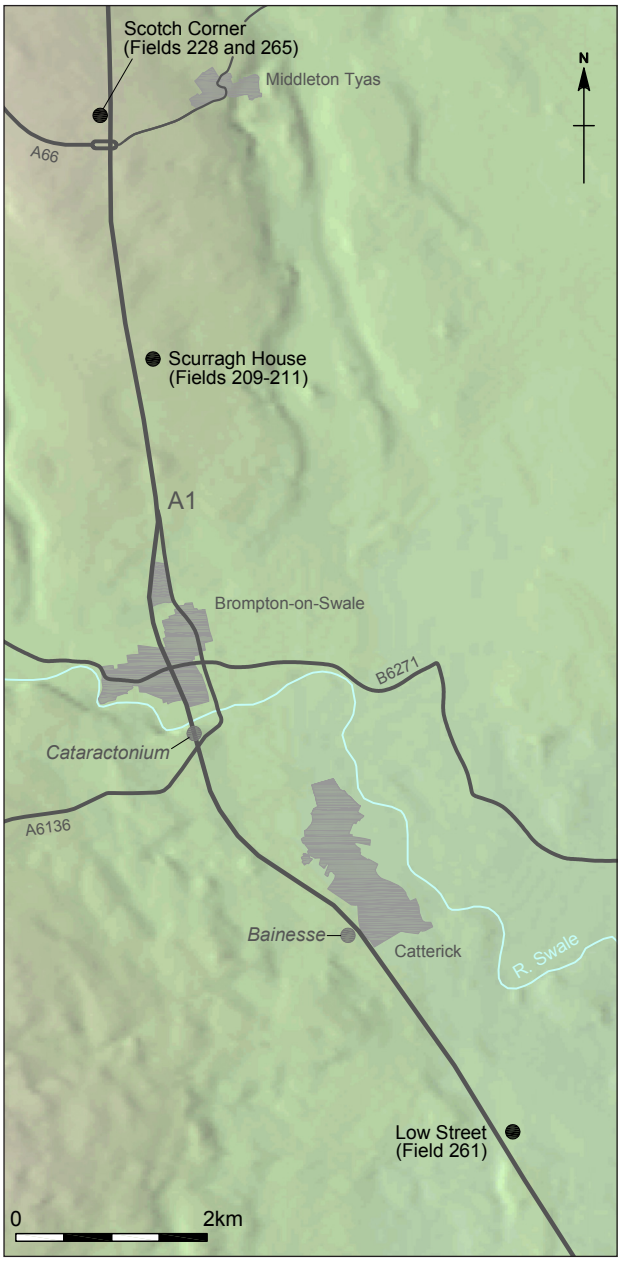


Figure 5.1: plan of the A1 scheme route and sites referred to in Chapter 5.

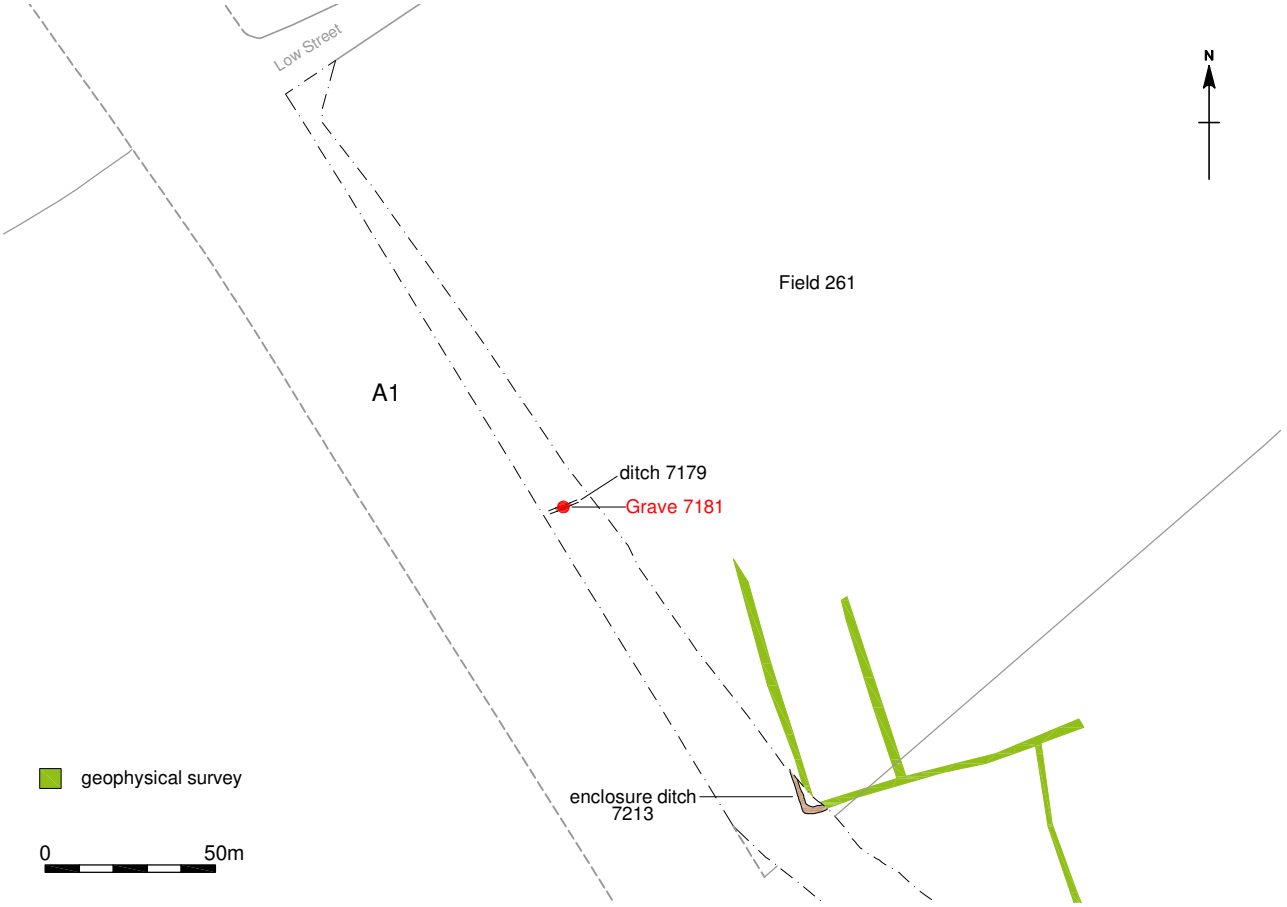


Figure 5.2: location of Grave 7181 at Low Street (Field 261).

Table 5.1: grave catalogue for Grave 7181.

Grave cut 7181	
Orientation	SW-NE
Max. dimensions	0.98m x 0.60m x 0.22m deep
Associated contexts	SK7182; Fill 7183
Skeleton 7182	
Posture	Prone, tightly contracted kneeling position with knees below chest and feet below pelvis. Head badly crushed, position uncertain.
Arm position	Left arm tightly flexed, humerus parallel to body, hand near shoulder. Right arm raised and bent sharply back in plane with shoulders, tightly flexed so that hand adjacent to shoulder.
Sex	Male
Age	26-35
Fragmentation	Moderate
Condition	Very good
Dental pathology	26 teeth with calculus, 7 teeth with caries (8 lesions in total)
Pathology	Sinusitis, scalp inflammation, spondylolysis of L5, lumbar-sacral border shift, small notches on lateral/posterior margins of both acetabula, congenital anomalies of the 1st distal foot phalanges
Stature (mm)	1633
C14 date	cal AD243–395 (human ribs; 1720±34 BP, SUERC-75373)
	cal AD137–340 (human tooth; 1775±32 BP, SUERC-76677)
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	Late 3rd–4th century

Figure 5.3: photograph of Grave 7181.

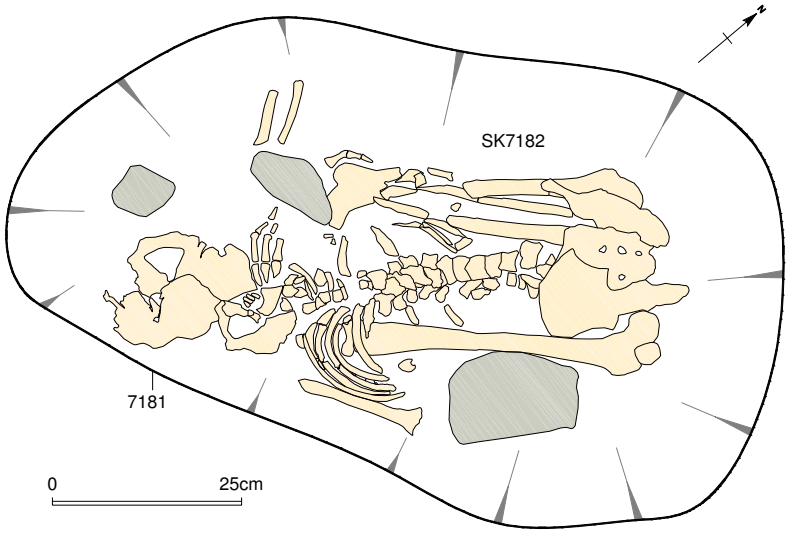


Figure 5.4: plan of Grave 7181.

(Ellis 1998, 10; Speed 2008, 7). It remains possible that additional burials lie to either side of the investigated area at Low Street and further excavation of the enclosure complex immediately to the east of the burial site may clarify whether it was indeed isolated.

The burial, which was 3rd–4th century in date, had been cut into a ditch that had already infilled, and may have been placed against a boundary such as a hedge, for which no evidence survived. Dependent upon the presence of a roadside boundary, such as another hedge, the grave is likely to have been visible from Dere Street, which was only a few metres away. The nature of the Low Street burial differed from other broadly contemporary later 3rd- or 4th-century burials at Bainesse, *Cataractonium* and Scurragh House (see below and Chapters 3–4). The prone, tightly contracted position of the body contrasted with the typically extended, supine inhumation burials, as well as the smaller number of semi-flexed or flexed burials, seen elsewhere on the scheme. However, it bore

some similarities to the burial of a middle-aged woman at Bainesse found during previous excavations (CfA Site 46, grave 259; Wilson 2002a, 172), which has been suggested to be of 3rd-century date. She was found lying on her side with "her knees drawn tightly up under her chin" and appeared to have been inserted into an infilled ditch.

Burial in a prone position (as opposed to the carefully laid-out extended supine burials seen at Bainesse and *Cataractonium*) is unusual but not unknown in Roman Britain (Philpott 1991, 72; Taylor 2008, 107–10), and was observed in Grave **20955** at Brompton West (see Chapter 4). At Healam Bridge, a child of 10–11 years was also buried in a prone position in a very short grave similar to that at Low Street, with the torso bent back into a semi-upright position, although in this case both arms were in front of the body. The burial, which was radiocarbon dated to cal AD135–349 (1770±35 BP, SUERC-39590), included grave goods comprising the body of a puppy and a group of finger rings (Ambrey *et al*. 2017, 94), and was therefore presumably undertaken with some care, whereas at Low Street no such evidence for grave goods survived. The tightly flexed position of the Low Street burial can be paralleled in burial 556 at Stamford Bridge, a probable adult male of late 2nd–4th century date, who was buried in a supine position with the knees drawn up over the chest (Parry 2007, fig. 16).

It is difficult to draw meaningful conclusions about the burial at Low Street. Analysis of the skeleton highlighted several traits that in combination suggested a possible African or mixed ancestry (see Chapter 6), and it is possible that this may have influenced the burial rite used. Individuals of African ancestry were not uncommon during the period in Roman Britain (Leach *et al*. 2009; Eckhardt *et al*. 2014), or indeed in the Catterick area, with two individuals of possible African ancestry having also been found in the Bainesse cemetery, albeit interred in a more traditional manner (see Chapter 3). The burial rite that was used at Low Street did not employ any characteristics that were consistently applied in the wider region. It seems, for the time being, that too few examples of tightly-flexed burials are known for any meaningful patterns to be ascertained. It is clear that even among those that were given the same burial position, a variety of expressions of funerary ritual have been observed.

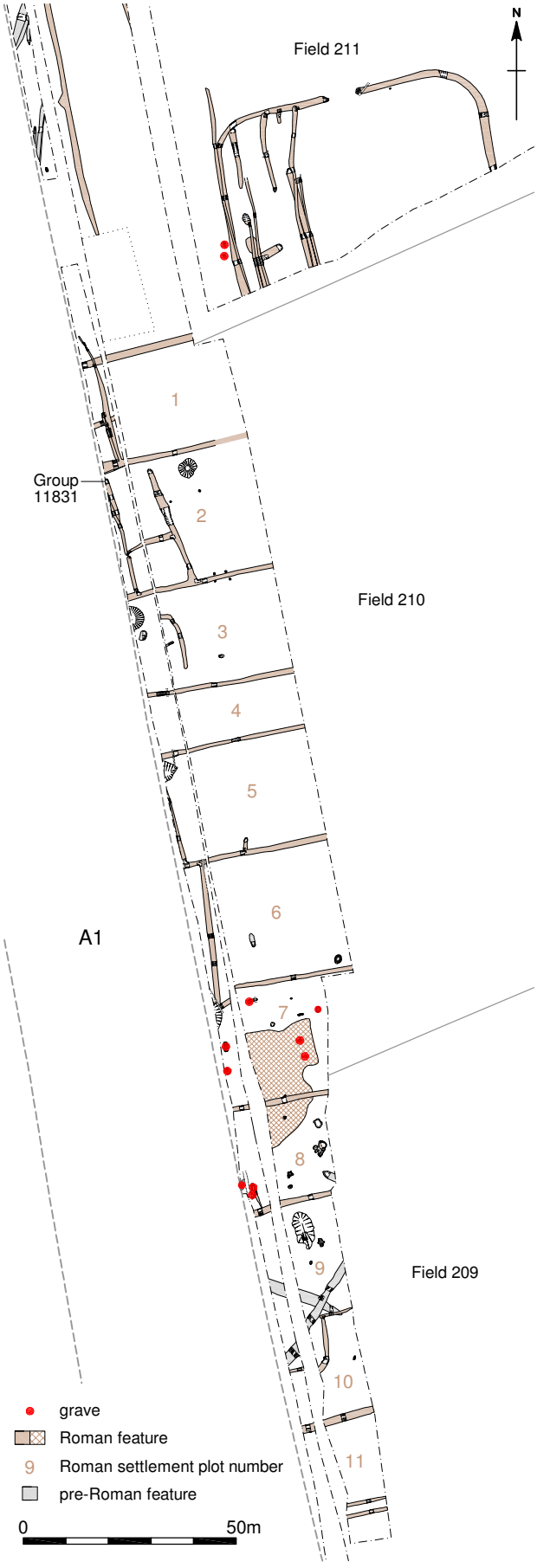


Figure 5.5: Scurragh House (Fields 209–211) site plan.

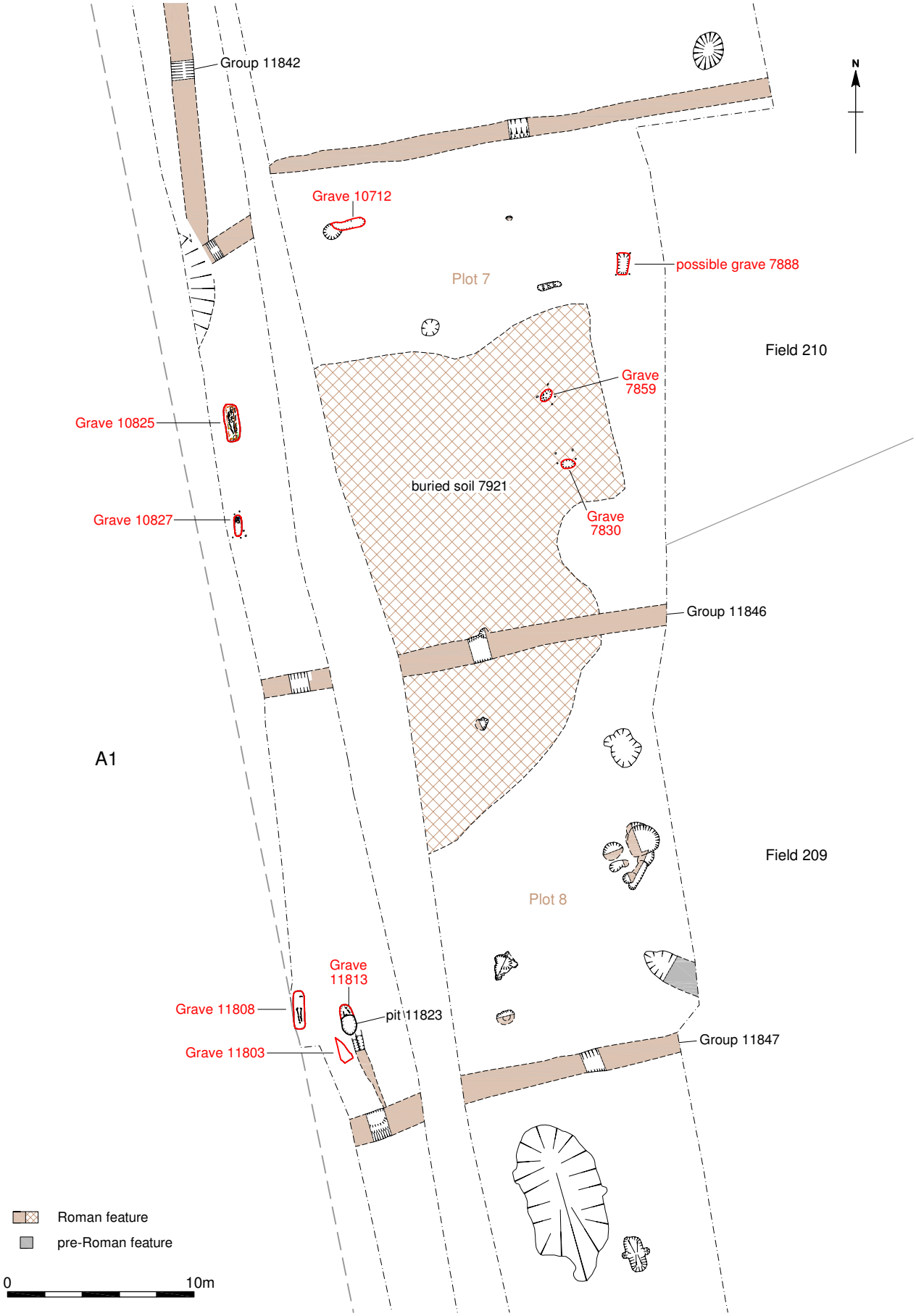


Figure 5.6: location of graves in Fields 209 and 210.

SCURRAGH HOUSE (FIELDS 209–211)

The site at Scurragh House lay at the eastern side of Dere Street, 3.5km to the north of *Cataractonium* (at NZ 2200 0300). It was located on a relatively level plateau on the slope leading from the Roman town up to the Roman road junction at Scotch Corner. Dere Street in this area is believed to have followed the same line as the former A1 dual carriageway.

The earliest activity on the site was represented by a complex of ditches orientated at approximately 45 degrees to Dere Street (Fig. 5.5). These were observed across a wide area to either side of the Roman road and represented a field system that was presumably laid out prior to the construction of Dere Street, although there were no datable materials to provide a precise chronology for their infill. They are, however, tentatively interpreted as a pre-Roman field system associated with Late Iron Age management of the landscape, which will be considered further by Fell (forthcoming). A large ditched enclosure was subsequently constructed to the east of, but parallel to, Dere Street. Only the northern end of this enclosure was available for investigation, although its size and apparent 'playing card' shaped plan suggested that it may have been a Roman military temporary camp. Residual pottery from the enclosure ditches suggested that it had become abandoned before the end of the 2nd-century. The absence of 3rd- and 4th-century pottery in its ditches suggests that they had become filled before the later Roman period.

The main phase of settlement activity at Scurragh House dated to the late 3rd and early 4th centuries, based on the pottery assemblage and radiocarbon dating of the human burials. Any evidence of Roman roadside occupation at Scurragh House would have been destroyed when the A1(T) dual-carriageway was constructed in the 1950s, but a series of enclosures, interpreted as settlement plots, and other features likely to have been located behind such a frontage were investigated during the excavations. Eleven plots up to 30m wide were demarcated by ditched boundaries that were aligned perpendicular to the Roman road. Any direct relationship between the plots and the earlier temporary camp lay beyond the excavated area, although a small ditch that recut the western ditch of the temporary camp may have formed a common rear boundary to the settlement plots, giving them a length of around 60m, which is comparable to similar arrangements at Healam Bridge and Bainesse

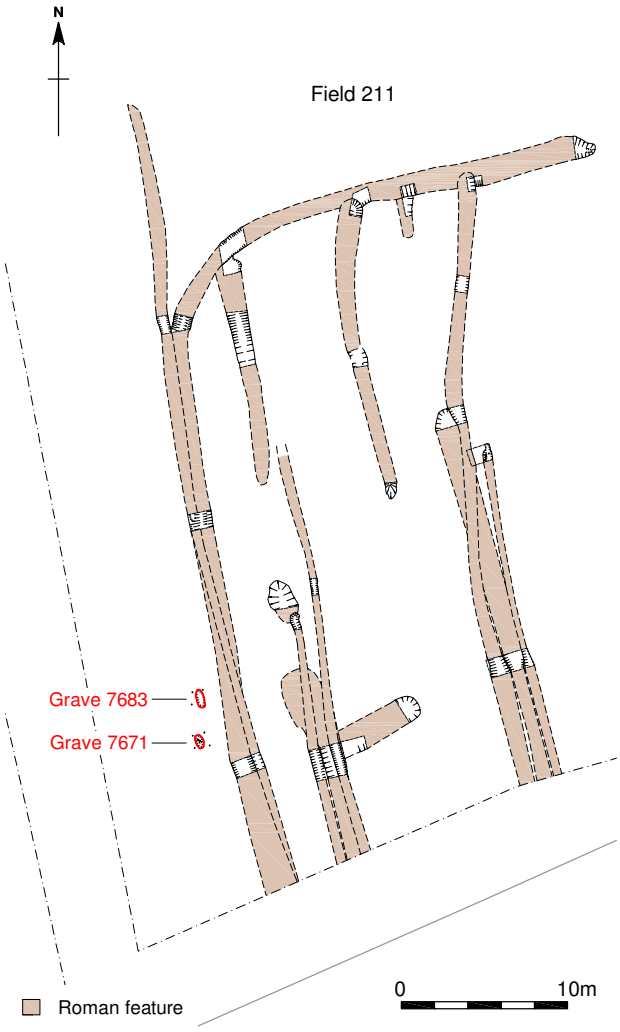


Figure 5.7: location of graves in Field 211.

(Ambrey *et al*. 2017, 105–6). The plots contained a variety of contemporary features, including pits, ovens or kilns, wells or watering-holes, and a number of inhumations and cremation burials. The non-funerary features at Scurragh House will be discussed in more detail in a future publication (Ross and Ross forthcoming).

The burials, including a possible interment in the stoke-pit of a probable kiln or oven, were located within Plots 7 and 8 (Fields 210 and 209), towards the southern end of the settlement (Fig. 5.6). Two cremation burials were found in Field 211 to the north of the settlement and adjacent to the possible temporary camp (Fig. 5.7). A single disarticulated human bone was recovered from the fill of the ditch dividing Plots 4 and 5. It could not be dated and was possibly residual, since no graves were identified nearby.

GRAVE CATALOGUE

Grave 11803

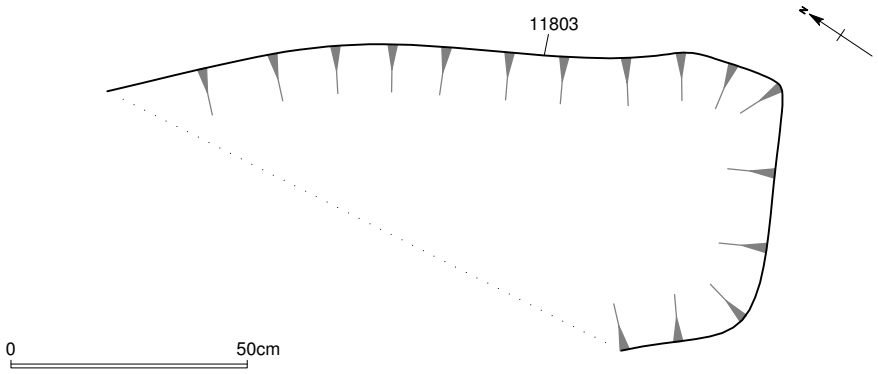


Figure 5.8: plan of Grave 11803.

Grave **11803** had a rectangular cut with vertical sides and a flat base. The north-western part of this feature had been truncated by a modern drain. It was backfilled with a sequence of light grey silty clay (**11810**), mixed bluish grey sandy clay and orange silty clay (**11811**), and bluish grey sandy clay (**11812**), broadly reflecting the natural sequence into which the grave had been cut and showing that the spoil from grave-digging was kept largely in order. Traces of bone were found on the base of the cut towards its northern end; otherwise no human remains, or grave goods survived. This feature lay within a small cluster with Graves **11808** and **11813**, and its regular form supports its interpretation as a grave.

Figure 5.9: photograph of Grave 11803.

Table 5.2: grave catalogue for Grave 11803.

Grave cut 11803	
Orientation	NNW-SSE
Max. dimensions	>1.40m x 0.57m x 0.33m (truncated)
Associated contexts	Fills 11810, 11811, 11812
Skeleton – None	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	pottery sherds x2 (Fabric NV2); bone fragments; magnetic matter; hammerscale; coal
Environmental	-
Interpretative date	3rd-4th century (based on pottery)

Grave 11808

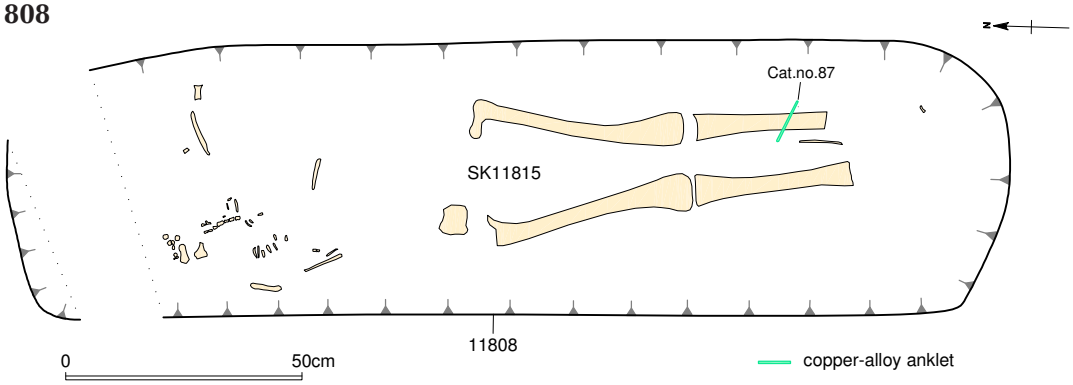


Figure 5.10: plan of Grave 11808.

This grave was located at the western edge of the excavated area, with the western side of the cut continuing beyond the limits of the excavation. However, the skeletal remains were fully recovered. Despite the size and rectangular form of the grave, there was no evidence for a coffin. The grave was longer than the skeleton at the head end. A copper-alloy anklet was recovered from this grave (Cat. no. 87), but any other grave goods that may have been present had been removed by a modern land-drain, which cut through this area.

Figure 5.11: photograph of Grave 11808.

Table 5.3: grave catalogue for Grave 11808.

Grave cut 11808	
Orientation	N-S
Max. dimensions	2.15m x 0.60m x 0.45m deep
Associated contexts	SK11815; Fills 11814, 11816, 11817, 11818
Skeleton 11815	
Posture	Supine. Legs extended with ankles together. Head possibly turned to left (based on position of mandible)
Arm position	Right arm extended parallel to body, left arm flexed 90 degrees at elbow with arm across abdomen
Sex	-
Age	18-25 yrs
Fragmentation	Severe
Condition	Poor
Dental pathology	Calculus, DEH
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 87 copper-alloy anklet; Cat. no. 336 nailed footwear represented by x60 (minimum) hobnails
Other finds	Pottery sherds x6 (Fabric NV2); pottery sherd x1(Fabric OAA); bone fragments; magnetic matter; hammerscale; coal
Environmental	Charcoal
Interpretative date	4th century (suggested date for anklet (Cat. no. 87)

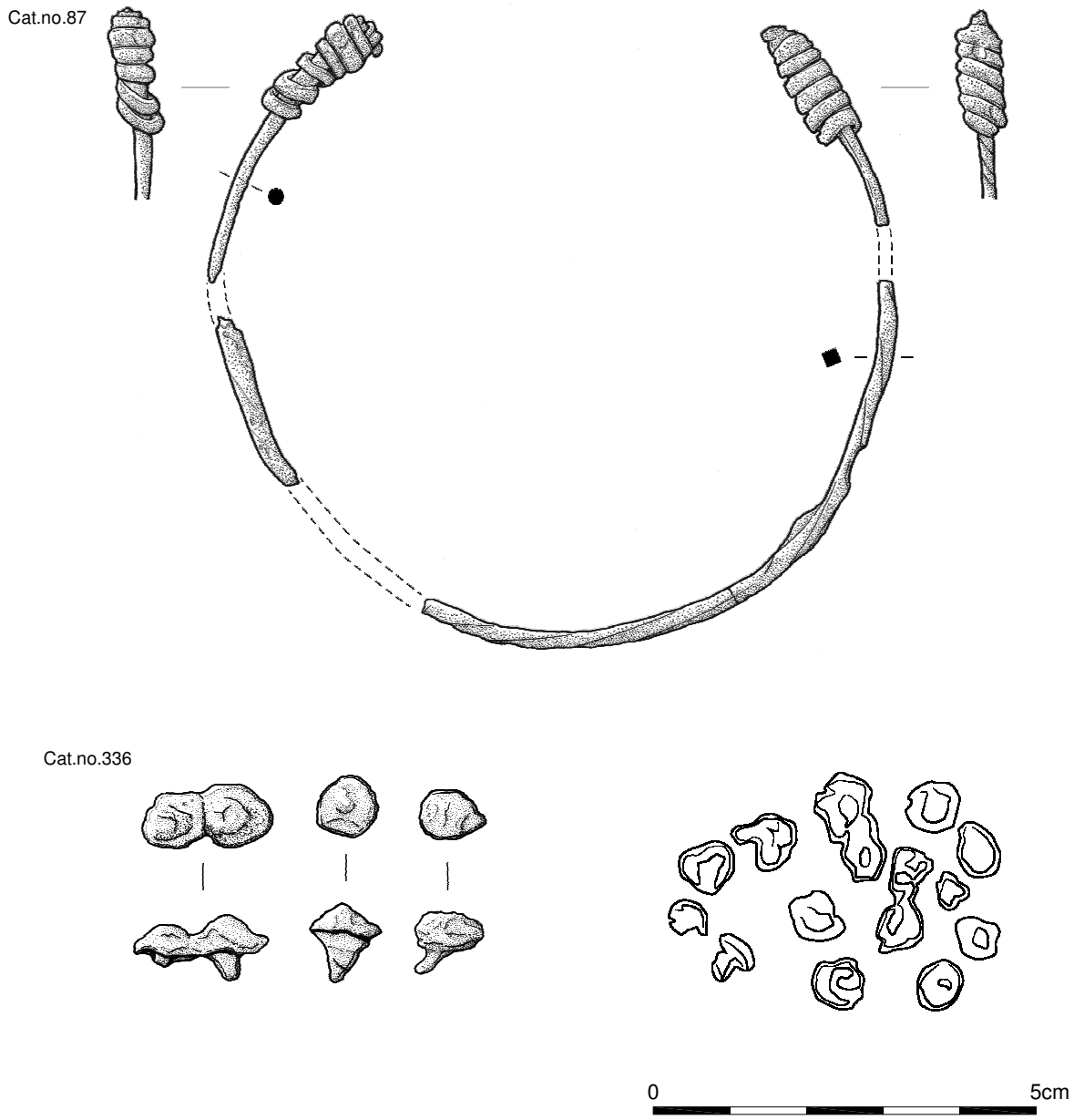


Figure 5.12: grave goods associated with Grave 11808.

Grave 11813

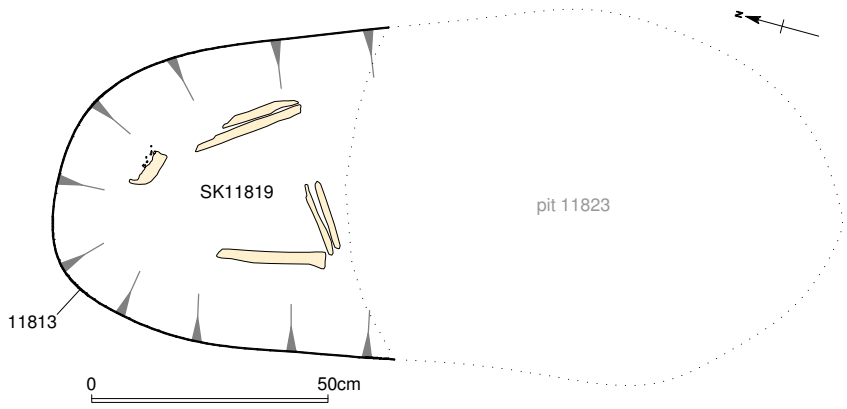


Figure 5.13: plan of Grave 11813.

This grave had been severely truncated and during excavation it was realised that the southern part of the feature was actually a later oval pit (**11823**), which truncated the earlier burial. No finds or artefacts were recovered from this pit. However, in the absence of any other pit features in this part of the site (other than graves) and its position directly over Grave **11813**, it is possible that pit **11823** represented a secondary associated interment from which no human remains or grave goods survived.

The presence of pit **11823** had removed the southern end of Grave **11813** below the chest area of Skeleton 11819 and the grave had also suffered severe vertical truncation. There was no evidence for a coffin. The lower part of the surviving cut had been backfilled with greyish brown silty or sandy clay **11821** (numbered **11822** below the level of the human remains), which was overlain by yellowish brown sandy silt **11820**.

Table 5.4: grave catalogue for Grave 11813.

Grave cut 11813	
Orientation	N-S
Max. dimensions	>0.52m x 0.54m x 0.13m deep
Associated contexts	SK11819; Fills 11820, 11821, 11822
Skeleton 11819	
Posture	Upper torso supine, position of mandible suggested the head was tilted to the left. Area of grave below chest area truncated
Arm position	Right arm flexed 90 degrees at elbow with lower arm across abdomen. Left upper arm parallel to body, lower arm tightly flexed back over upper arm
Sex	-
Age	26-35 yrs
Fragmentation	Extreme
Condition	Extremely poor
Dental pathology	Calculus, caries
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. no. 357 possible disturbed nailed footwear represented by x3 (minimum) hobnails
Other finds	Glass (x1); RF13637 iron nail; bone fragments; coal
Environmental	Charcoal
Interpretative date	Undated

Grave 10825

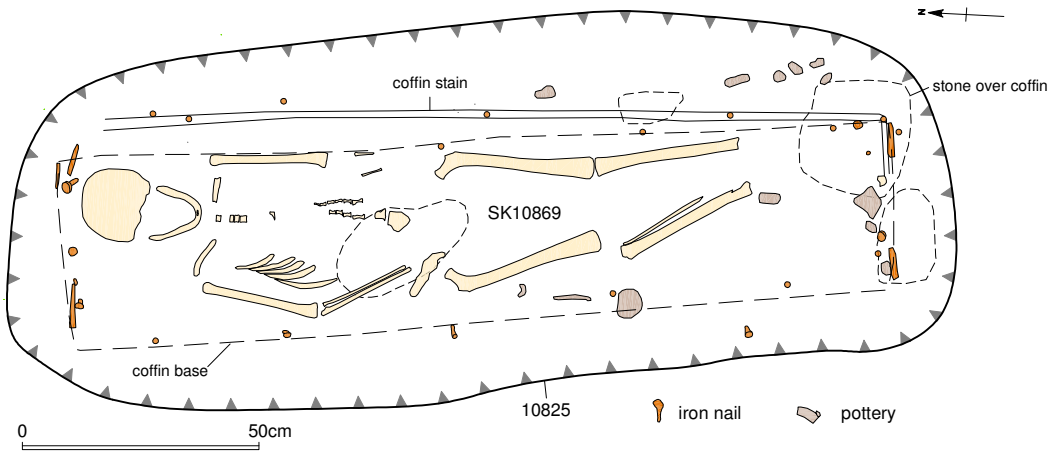


Figure 5.14: plan of Grave 10825.

Figure 5.15: photograph of Grave 10825.

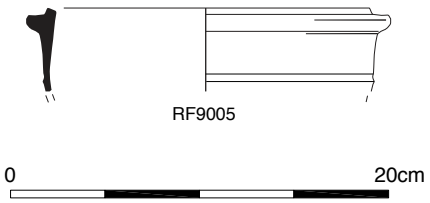


Figure 5.16: pottery from Grave 10825.

The cut of Grave **10825** contained a coffin stain, which survived in plan mainly along the eastern edge of the coffin and across the base. Much of the coffin was delineated by vertical nails at the top and bottom along all four sides, indicating that the base and lid had been nailed to the upper and lower edges of the sides. A single transverse nail was found on either side at the foot end and pairs of transverse nails vertically above one another at the head end, showing that the sides had been nailed onto the edges of the ends. The coffin fitted fairly tightly within the base of the grave. Several large stones had also been placed over the coffin lid.

The badly decayed remnants of Skeleton 10869 lay with the head at the north-eastern corner and the torso and legs against the western side of the coffin. The only certain grave goods were nailed footwear, which appeared to have been worn.

Pottery sherds were found in several locations in the southern (foot) half of the grave. Sherds recorded as RF9005/35–40 lay on the base of the eastern side of the cut external to the southern end of the coffin. Several more sherds (RF9005/10, 11, 19 and 29) were found at a level consistent with them having overlain the upper southern edge of the coffin. Sherd RF9005/12 was found at the base of the cut within the southern part of the coffin, while sherds RF9005/13–15 appear to have rested against the external western side of the coffin, allowing for collapse of the upper part of that side of the coffin, as evidenced by the position of the upper nails relative to the lower nails. The abraded condition of the sherds, which although of the same fabric derived from at least three different vessels, suggested that they were residual and contained within the soil used to backfill the grave.

Table 5.5: grave catalogue for Grave 10825.

Grave cut 10825	
Orientation	N-S
Max. dimensions	2.10m x 0.68m x 0.44m deep
Associated contexts	Coffin stain 10826; SK10869; Fills 10823, 10824, 10870, 10871
Skeleton 10869	
Posture	Supine, extended
Arm position	Upper arms lying at sides, lower arms slightly flexed, hands would have been together ober pelvis. Legs extended, feet together
Sex	-
Age	18+ yrs
Fragmentation	Severe
Condition	Poor
Dental pathology	Calculus
Pathology	Degenerative disc disease and DJC in the spine
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	RF9005/1-9, 16-18, 21-28, 30, 32-34, 43-45 iron nails (x27); iron nails (x1)
Ceramic vessel	-
Grave goods	Cat. no. 335 nailed footwear represented by x39 (minimum) hobnails
Other finds	RF9005/10-15, 19, 29, 35-40, 42x sherds representing at least three small jars of different form all in the same fabric (LOOL2); bone; magnetic matter; hammerscale; coal; RF9005/41 plaster; iron nail (x1)
Environmental	CPR; charcoal
Interpretative date	?Late 3rd–4th century

Grave 10827

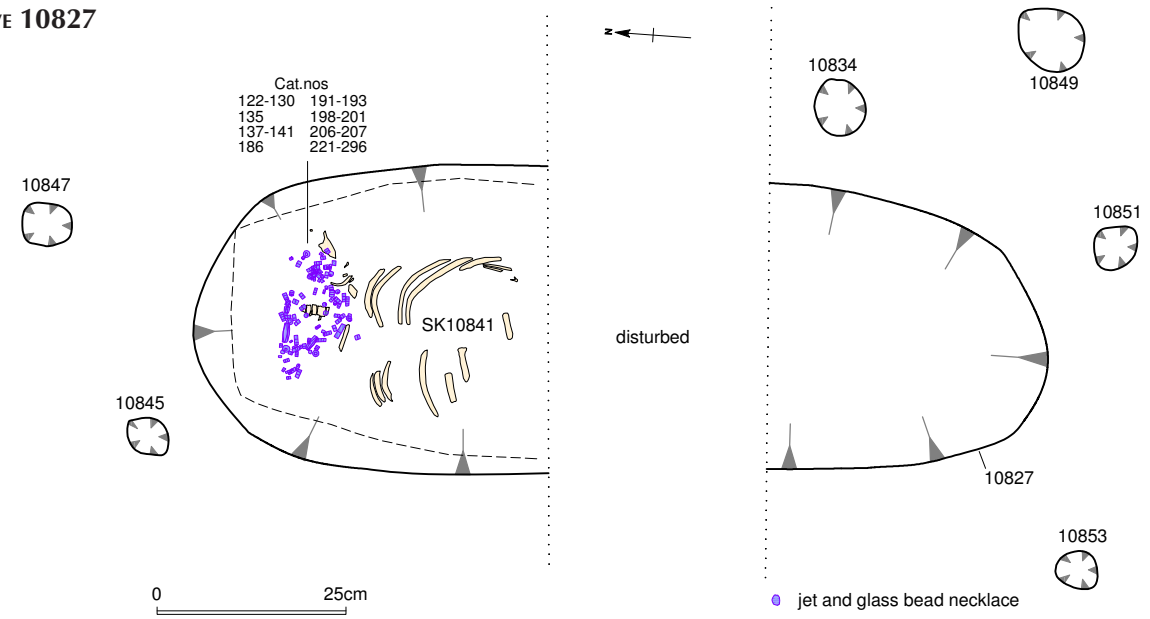


Figure 5.17: plan of Grave 10827.

This grave was located towards the western edge of the area, orientated approximately parallel to Dere Street. It had been bisected by a modern land-drain, resulting in the loss of the central quarter of the feature, and was also severely truncated vertically. Poorly preserved human remains survived in the northern (head) end of the burial, with none identified to the south of the drain. There was a possible coffin stain that extended around the edges of the northern end of the grave. The grave was backfilled with mid brownish grey sandy silt.

A bead necklace was likely to have been worn, supported by its apparently 'correct' arrangement (allowing for the

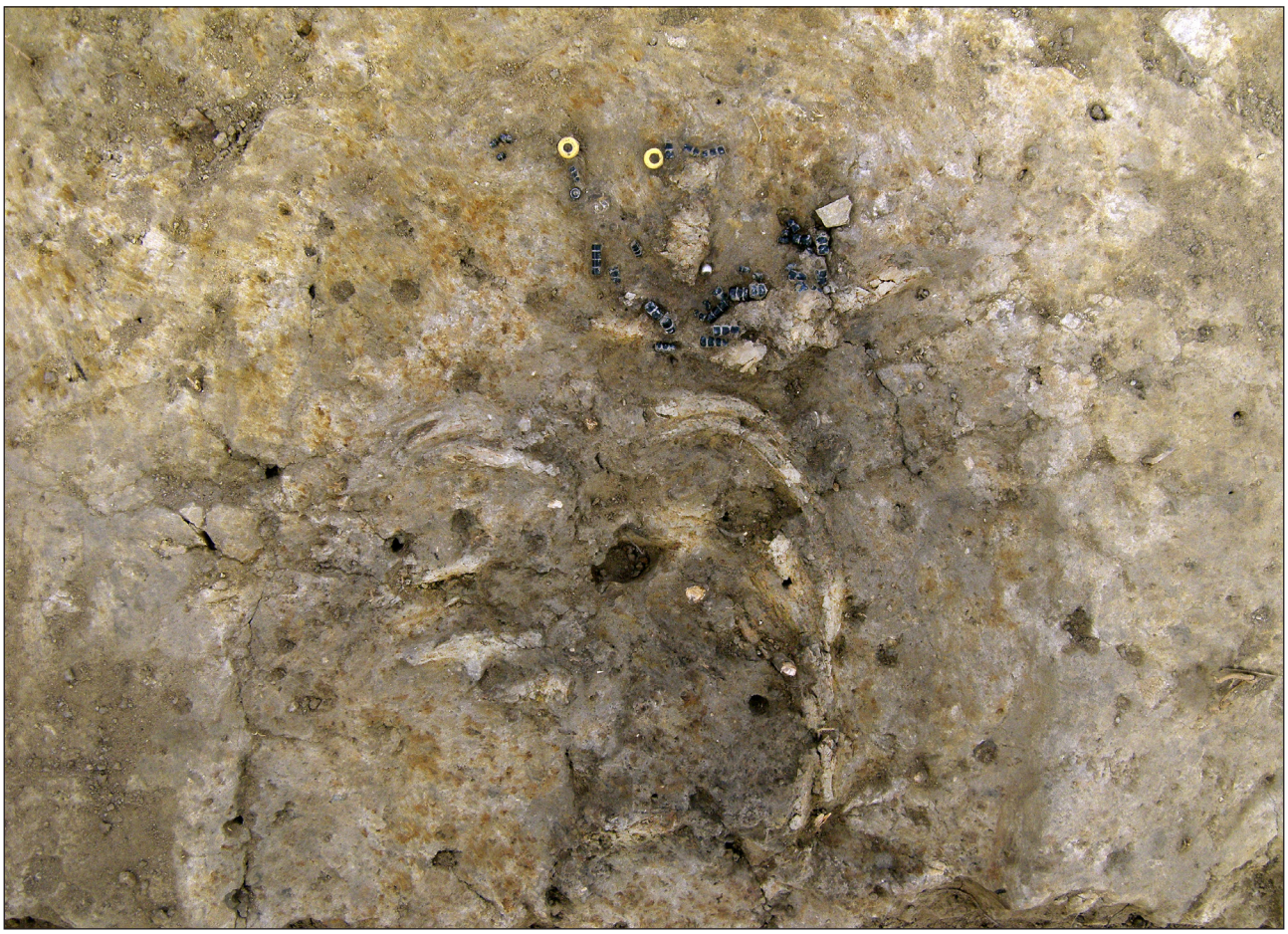


Figure 5.18: photograph of Grave 10827.

Table 5.6: grave catalogue for Grave 10827.

Grave cut 10827	
Orientation	N-S
Max. dimensions	1.10m x 0.39m x 0.06m deep
Associated contexts	Fill 10832; SK10841; Associated stakeholes 10834, 10845, 10847, 10849, 10851, 10853
Skeleton 10841	
Posture	Supine. Left arm only surviving limb. Head possibly turned to the left
Arm position	Left arm probably extended parallel to body
Sex	-
Age	-
Fragmentation	Extreme
Condition	Extremely poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	Possible coffin stain
Ceramic vessel	-
Grave goods	Cat. nos 122–130, 135, 137–141, 186, 191–193, 198–201, 206–207, 221–296 glass and jet bead necklace (x101 beads)
Other finds	-
Environmental	-
Interpretative date	3rd–4th century (based on suggested date of necklace)

head being turned to the left) and the presence of beads found below the remains of the mandible.

The grave was surrounded by an arrangement of six possible stakeholes (although the presence of a former hedgeline in this area should be noted). The largest of these (**10834**) lay further from the edge of the grave cut than the others and was possibly unconnected. It was 0.09m in diameter and had a surviving depth of 0.15m. The other five stakeholes were arranged around the northern and southern ends of the grave, forming a discontinuous irregular oval approximately 1.4m long and 0.6m wide. They were individually 0.05–0.06m in diameter and 0.03–0.09m deep. All six stakeholes were filled with light brownish grey sandy silt (fills **10833**, **10846**, **10848**, **10850**, **10852** and **10854** respectively).

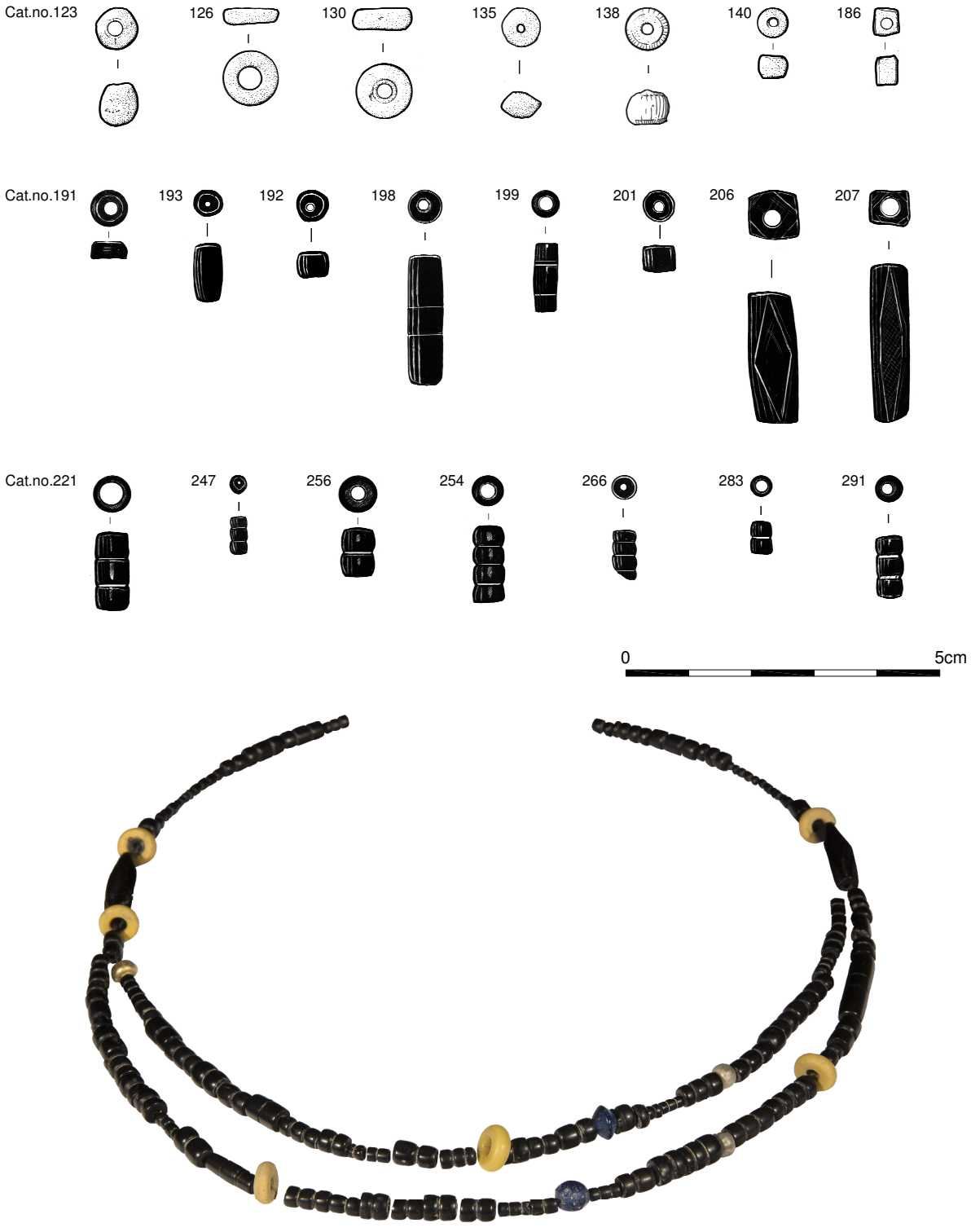


Figure 5.19: jet and glass bead necklace recovered from Grave 10827.

Grave 10712

Fragmentary human remains, which likely derive from a juvenile individual (Skeleton 10713/10715), were recovered from two fills within what was interpreted as the stoke-pit of a corn dryer (**10712**; Fig. 5.6). Although initially recorded as disarticulated, it is suggested, since the remains probably all derived from a single individual (see Chapter 6), that they derived from a poorly-preserved interment inserted into the backfill of the pit that was not recognised during excavation.

Table 5.7: grave catalogue for Grave 10712.

Skeleton 10713/10715	
Posture	-
Arm position	-
Sex	-
Age	6-8yrs
Fragmentation	Moderate
Condition	Good
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	-

Grave 7830

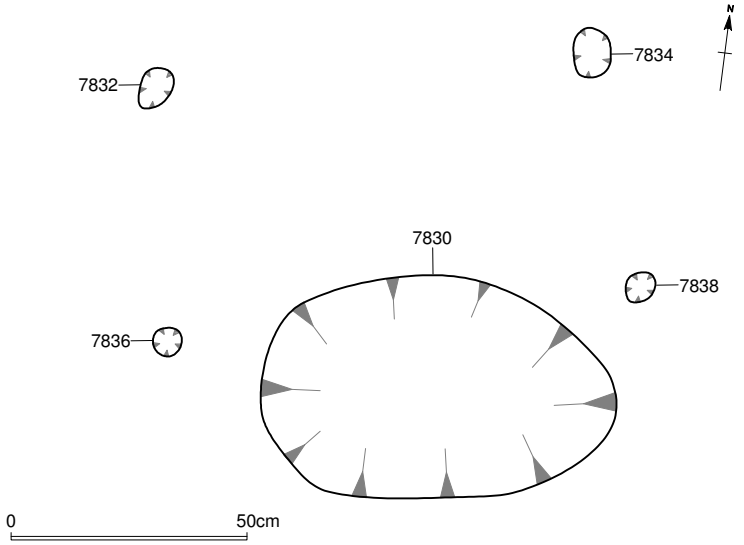


Figure 5.20: plan of Grave 7830.

The grave was orientated from east to west. There was no evidence for in situ burning. The fill (**7831**) was a uniform deposit of dark brown sandy silty clay that contained c.50% charcoal and calcined bone fragments. The small number of hobnails found within this deposit (which presumably represented only a portion of the pyre debris) suggested that the footwear from which they came had been burnt upon the pyre. All of the potsherds (which were found towards the top of the surviving fill) were unburnt.

The grave was accompanied by a rectangular arrangement of four stakeholes measuring 1m from east to west by 0.54m from north to south. This was displaced c.0.4m to the north relative to the grave, rather than being centred on it, possibly suggesting that they were created after the grave had been infilled and its precise position obscured. The individual stakeholes were 0.07–0.10m in diameter, 0.07–0.17m deep, and filled with dark greyish brown sandy silt that contained charcoal.

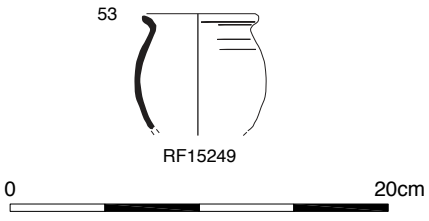


Figure 5.21: pottery associated with Grave 7830.

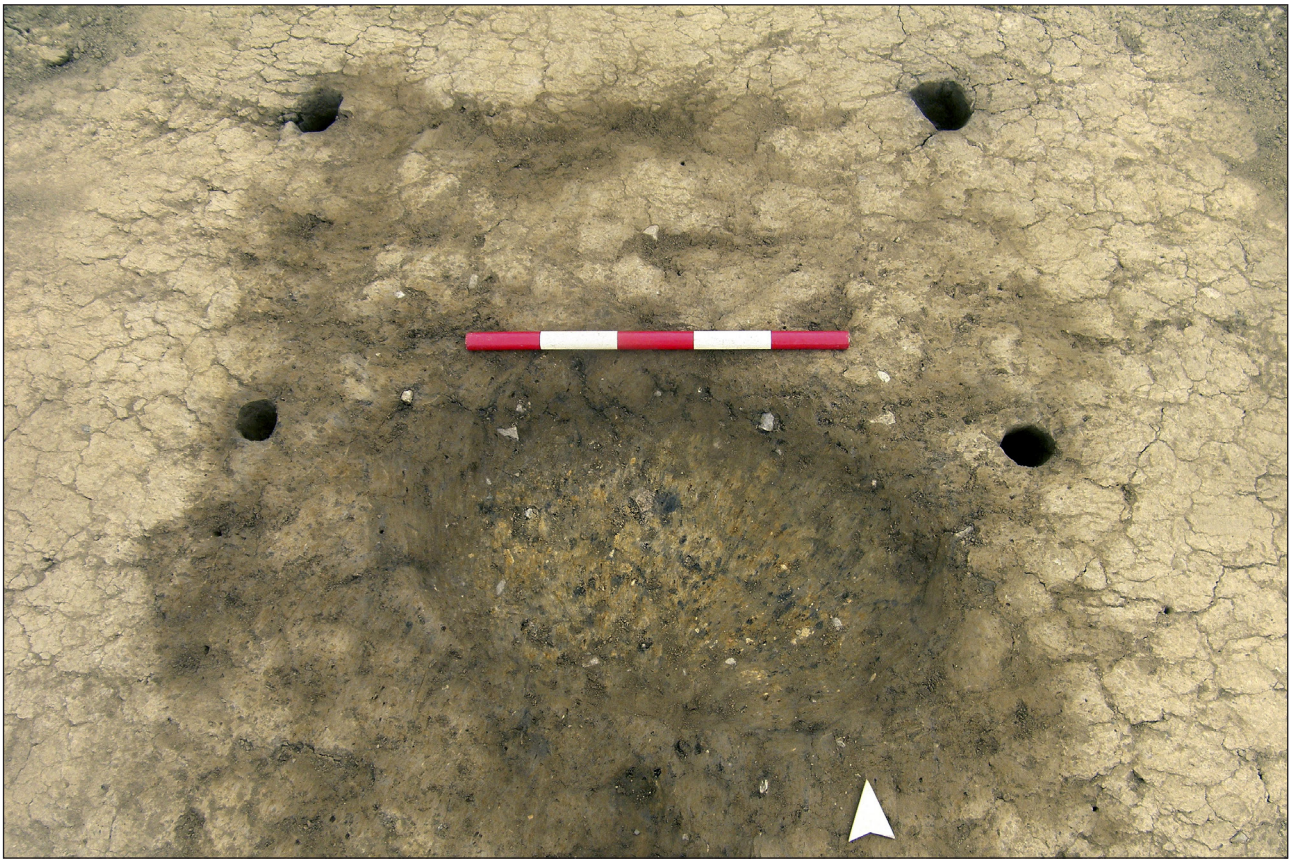


Figure 5.22: photograph of Grave 7830.

Table 5.8: grave catalogue for Grave 7830.

Grave cut 7830	
Shape	Oval
Max. dimensions	0.75m x 0.50m x 0.12m deep
Associated contexts	Fill 7831; Associated stakeholes 7832, 7834, 7836 and 7838
Cremation deposit 7831	
Weight	72.4g
Largest fragment	
Identified elements	Skull, axial, upper limb
Colour	White/grey/black
MNI	1
Age	-
Sex	-
C14 date	cal AD224–391 (calcined human bone; 1742±34 BP, SUERC-75023)
Grave contents	
Cinerary urn	-
Grave goods	Pottery sherds x6 (Fabric GRB1) from small jar/beaker copying BB1 vessels. Perhaps Hadrianic or Antonine in date, but not closely datable.
Pyre goods	Cat. no. 418 nailed footwear represented by x8 (minimum) hobnails
Other finds	Magnetic matter
Environmental	Charcoal
Interpretative date	Late 3rd-4th century

Grave 7859

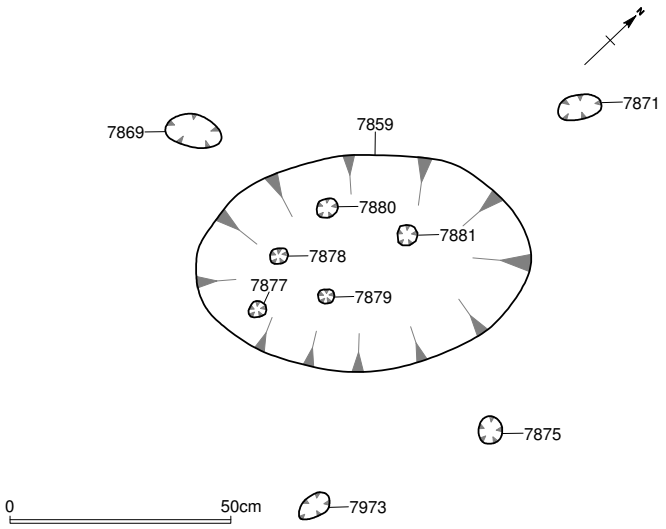


Figure 5.23: plan of Grave 7859.

Grave **7859** was orientated from north-east to south-west. There was no evidence for any in situ burning. The feature was filled with dark greyish brown clayey silt (**7860**) containing c.70% charcoal fragments. Five small stakeholes (**7878**, **7880**, **7881**, **7879** and **7877**) were cut into the base within the western part of the grave. Four of these defined a rectangular area measuring 0.20 by 0.15m or, if all five are included, an irregular shape c.0.30m x c.0.20m in size. The majority of the calcined bone was recovered from the base of the pit, which had a slightly different upper fill that was largely free of pyre debris (see Fig. 5.24). This suggests that larger fragments of human bone selected from the pyre were placed within the container represented by the stakeholes, with residual pyre debris used to infill the grave around the container. The hobnails (Cat. no. 419) and fragments of an iron bracelet (Cat. no. 402) were recovered from soil samples and were not three-dimensionally located within the burial. As a result, it is not clear whether they were placed within the container or mixed with the pyre debris.

Four stakeholes (**7869**, **7871**, **7873** and **7875**) were external to the grave and formed an irregular trapezoid with sides between 0.40m and 0.90m long (between stake centres) that was roughly centred on the grave. The individual stakeholes were 0.06–0.12m in diameter, had surviving depths of 0.07–0.12m, and were filled with dark greyish brown sandy silt and charcoal fragments (fills **7870**, **7872**, **7874** and **7876** respectively).

Figure 5.24: photograph of Grave 7859 (half section).

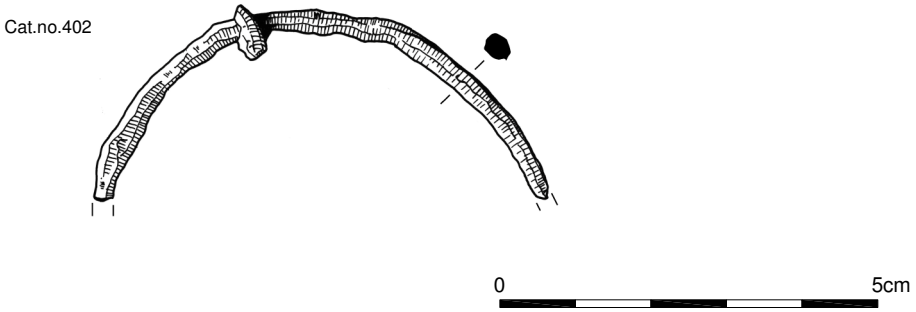


Figure 5.25: iron bracelet recovered from Grave 7859.

Table 5.9: grave catalogue for Grave 7859.

Grave cut 7859	
Shape	Oval
Max. dimensions	0.75m x 0.50m x 0.20m deep
Associated contexts	Fill 7860; Associated stakeholes (internal) 7877, 7878, 7879, 7880, 7881 (external) 7869, 7871, 7873 and 7875
Cremation deposit 7860	
Weight	92.3g
Largest fragment	
Identified elements	Skull, axial, upper limb, lower limb
Colour	White, grey, black
MNI	1
Age	Juvenile
Sex	-
C14 date	cal AD131–333 (calcined human bone; 1793±34 BP, SUERC-75024)
Grave contents	
Cinerary urn	-
Grave goods	-
Pyre goods	Cat. no. 402 iron bracelet; Cat. no. 419 nailed footwear represented by x22 (minimum) hobnails
Other finds	Pottery sherd x1 (Fabric NVG); slag
Environmental	Charcoal; charred grass culms
Interpretative date	3rd–early 4th century (based on pottery and C14 date)

Grave 7888

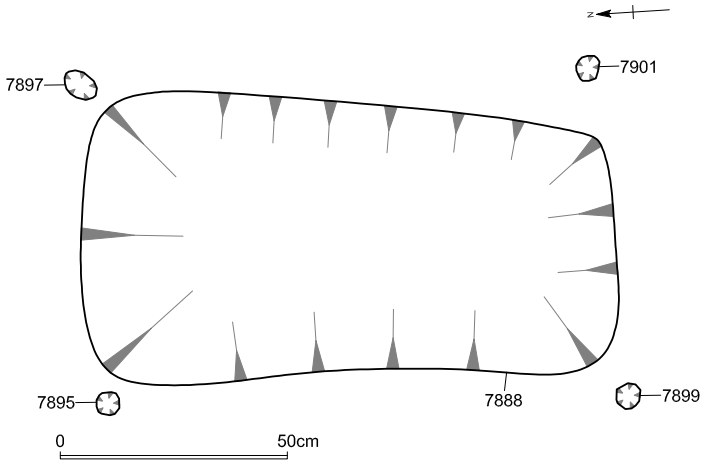


Figure 5.26: plan of Grave 7888.

This grave was demarcated by a rectangular cut with rounded corners and a shallow rounded profile, backfilled with mid brownish grey silty clay (**7889**). No human remains or grave goods were present. The small size of the grave suggested an inhumation of a non-adult.

The grave was associated with four stakeholes, which were placed external to each corner and forming a rectangle 1.10–1.15m long and 0.72–0.74m wide (between stakehole centres). The individual stakeholes were 0.05–0.07m in diameter, had surviving depths of 0.05–0.06m, and were filled with brownish grey sandy or clayey silt (fills **7896**, **7898**, **7900** and **7902** respectively).

Table 5.10: grave catalogue for Grave 7888.

Grave cut 7888	
Orientation	N-S
Max. dimensions	1.20 x 0.67 x 0.20m deep
Associated contexts	Fill 7889; Associated stakeholes 7895, 7897, 7899 and 7901; Group number 7903
Skeleton – None	
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	RF13641 iron nail shank; pottery sherd x1 (Fabric OAA); pottery sherd x1 (Fabric NVG)
Environmental	Charcoal
Interpretative date	3rd–4th century (based on residual pottery)

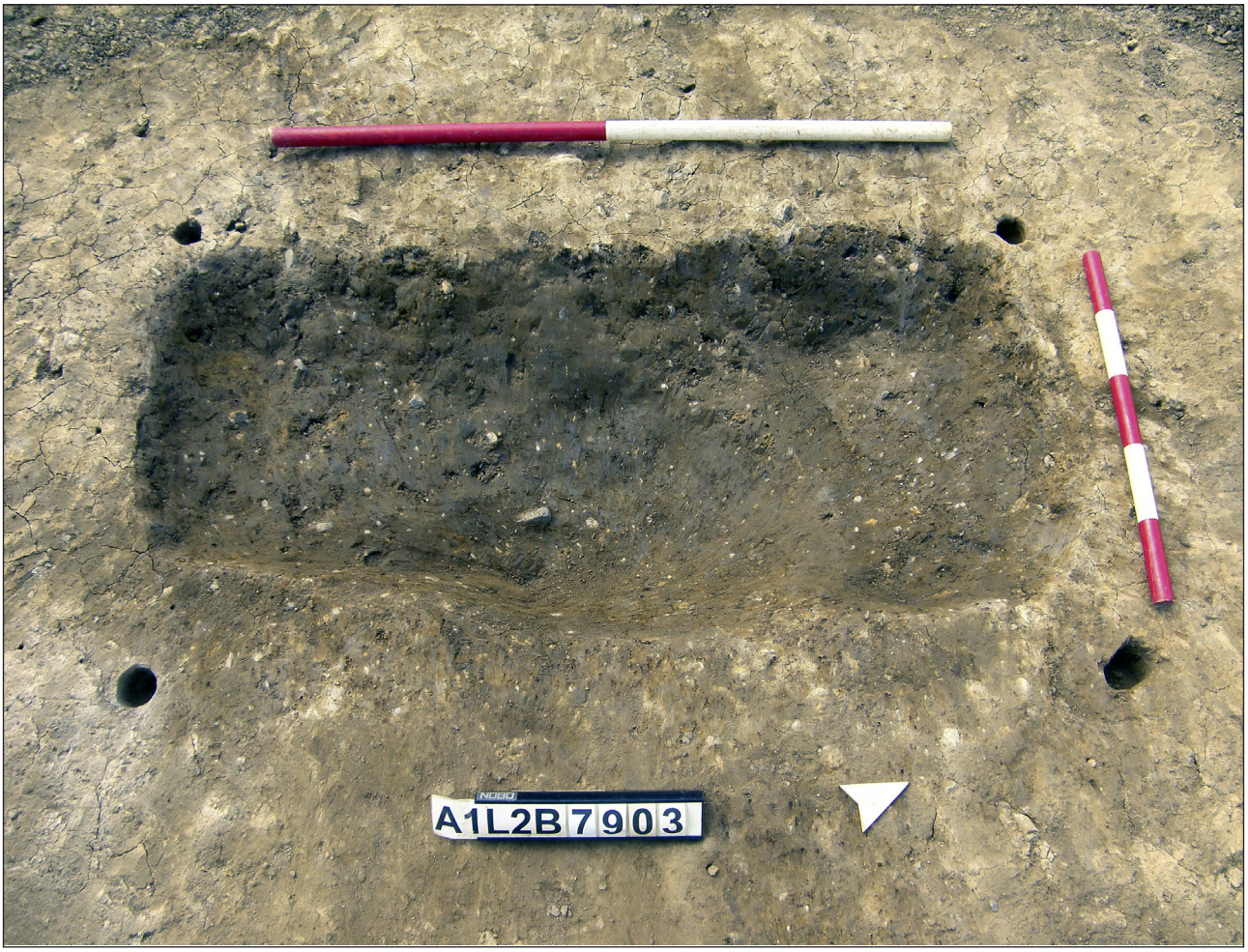


Figure 5.27: photograph of Grave 7888.

Grave 7671

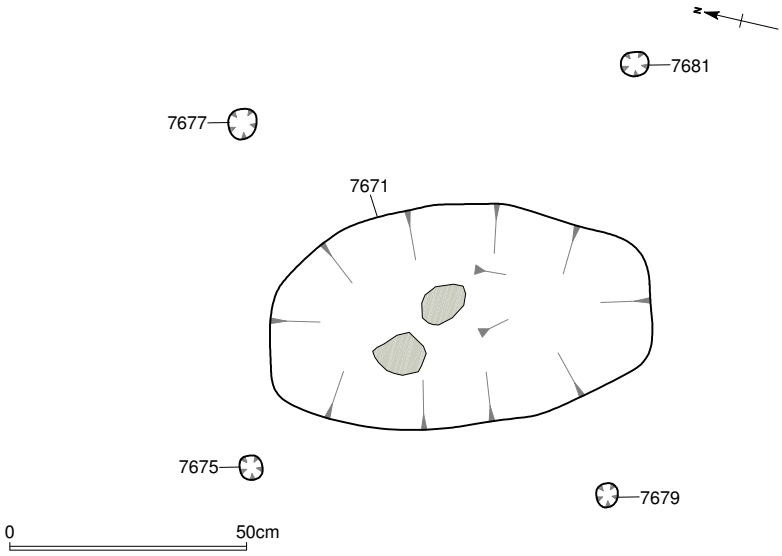


Figure 5.28: plan of Grave 7671.

This grave was aligned from north-northwest to south-southeast parallel to the adjacent enclosure ditch. The base of the grave pit deepened towards its southern end and it was here that the majority of the calcined bone (in both fills) and all of the pottery sherds were found. There was no evidence for in situ burning. Primary fill **7673** was c.0.08m thick and was distinguished from upper fill **7672** by its higher charcoal content (c.70% compared to c.50%), which was contained within a black silty clay matrix containing fragments of heat-reddened clay. Similar bone weights were recovered from both fills, meaning that there was a slightly higher concentration in the smaller, lower fill.

Figure 5.29: photograph of Grave 7671.

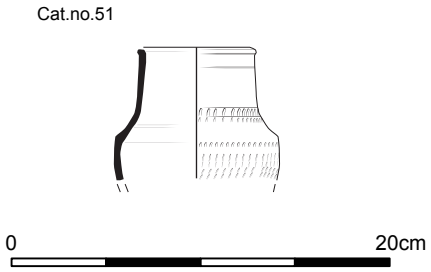


Figure 5.30: pottery associated with Grave 7671.

The burial pit lay at the centre of a trapezoidal arrangement of four stakeholes (**7675**, **7677**, **7679** and **7681**), which measured up to 0.85m from north to south by up to 0.90m from east to west (between stakehole centres). The individual stakeholes were 0.05–0.06m in diameter and had surviving depths of 0.05–0.06m. They were filled with mid brownish grey silty clay containing frequent charcoal flecks (fills **7676**, **7678**, **7680** and **7682** respectively).

Table 5.11: grave catalogue for Grave 7671.

Grave cut 7671	
Shape	Oval
Max. dimensions	0.80m x 0.47m x 0.20m deep
Associated contexts	Fills 7673 and 7672; Associated stakeholes 7681, 7677, 7675 and 7679
Cremation deposit 7672/7673	
Weight	73.1g (7672) + 70.0g (7673) = 143.1g
Largest fragment	-
Identified elements	Skull, axial, upper limb, lower limb
Colour	White, light grey
MNI	1
Age	?Adult
Sex	-
C14 date	7672: cal AD239–390 (calcined human bone; 1730±33 BP, SUERC-75025)
	7673: cal AD179–390 (calcined human bone; 1749±34 BP, SUERC-75029)
	7672 + 7673: cal AD241-380 (1739±24 BP)
Grave contents	
Cinerary urn	-
Grave goods	Cat. no. 51 pottery sherds x13 (Fabric CRA RE) from a Crambeck greyware pentice moulded beaker dated late 3rd–4th century, unburnt; pottery sherd x1 (Fabric GRA)
Pyre goods	-
Other finds	Fired clay; magnetic matter; hammerscale
Environmental	Charcoal
Interpretative date	Mid-3rd–mid-4th century

Grave 7683

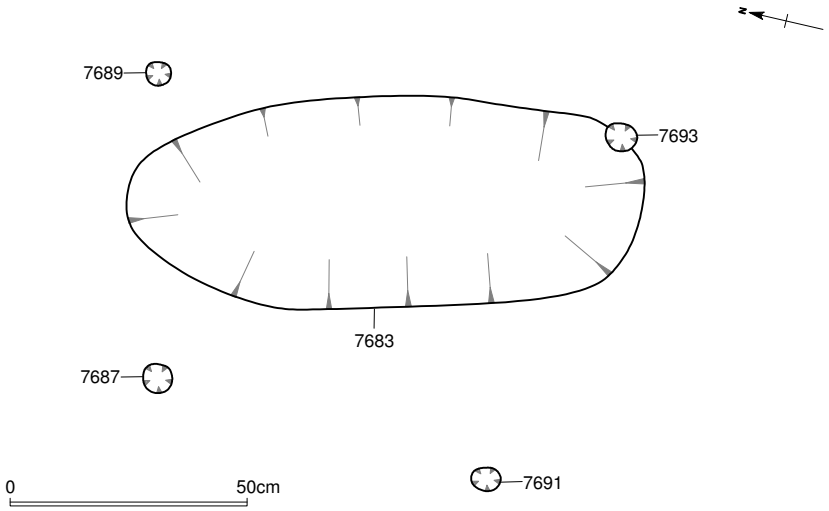


Figure 5.31: plan of Grave 7683.

Figure 5.32: photograph of Grave 7683.

This grave was aligned from north-northwest to south-southeast parallel to adjacent enclosure ditch **7826**. There was no evidence for in situ burning. Primary fill **7685** was c.0.13m thick and consisted of almost pure charcoal mixed with calcined bone fragments and some heat-reddened clay fragments. Upper fill **7684** contained a similar weight of calcined bone but considerably less charcoal. Hobnails were found throughout both fills, suggesting that the footwear from which they derived had been placed on the pyre. All of the unburnt pottery sherds were found within the upper fill.

The burial pit was surrounded by a trapezoidal arrangement of four stakeholes (**7687**, **7689**, **7691** and **7693**), which measured up to 1.00m from north to south by up to 0.78m from east to west (between stakehole centres). The individual stakeholes were 0.05–0.07m in diameter and had surviving depths of 0.05–0.06m. They were filled with dark greyish brown silty or sandy clay that contained frequent charcoal flecks (fills **7688**, **7690**, **7692** and **7694** respectively).

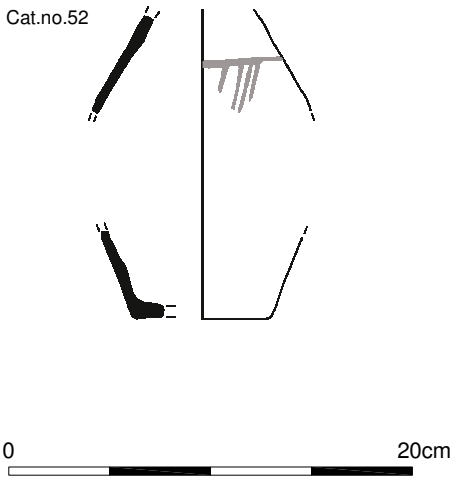


Figure 5.33: pottery from Grave 7683.

Table 5.12: grave catalogue for Grave 7683.

Grave cut 7683	
Shape	Oval
Max. dimensions	1.08m x 0.45m x 0.24m deep
Associated contexts	Fills 7684, 7685; Associated stakeholes 7687, 7689, 7691 and 7693
Cremation deposit 7684/7685	
Weight	57.9g (7684) + 62.0g (7685) = 119.9g
Largest fragment	
Identified elements	Skull, axial, upper limb, lower limb
Colour	White, light grey, grey
MNI	1
Age	?Adult
Sex	-
C14 date	7684: cal AD138–377 (calcined human bone; 1769±34 BP, SUERC-75030)
	7685: cal AD89–323 (calcined human bone; 1819±34 BP, SUERC-75031)
	7684 + 7685: cal AD134–325 (1794±25 BP)
Grave contents	
Cinerary urn	-
Grave goods	Cat. no. 52 pottery sherds x6 (Fabric GRB13) unburt jar dated 2nd–3rd century
Pyre goods	Cat. no. 417 nailed footwear represented by x23 (minimum) honails
Other finds	Fired clay; magnetic matter; coal
Environmental	Charcoal
Interpretative date	Late 2nd–early 4th century

DISCUSSION

The pottery from the settlement features at Scurragh House dated overwhelmingly from the late 3rd to the mid-4th centuries, with only a few sherds of earlier material (see Ross and Ross forthcoming). This evidence for relatively short-lived occupation at the site fits well with the radiocarbon dates, finds and stratigraphic evidence from the burials.

The modest number of burials at Scurragh House may be explained primarily by the short life span of the settlement and the poor preservation of human and animal bone across the site. However, the position of the inhumations in back plots suggest interment of deceased members of households, rather than a communal cemetery, which would presumably accumulate a greater number of burials than was found to be present. Where the deceased occupants of other households were buried remains unknown, but it is conceivable that a communal cemetery was located somewhere beyond the limits of the settlement. An alternative, and perhaps more likely scenario, is that other individual burials were adjacent to the plot boundaries that lay beyond the east side of the investigated area, or beneath the A1 to the west.

Aside from minor variations, the graves at Scurragh House conformed broadly to two main identifiable burial rites: graves with arrangements of wooden stakes, set back from the roadside front plots, and 'back plot' burials interred along the boundaries between front and back plots in the settlement. The graves with stakeholes, which are the more unusual of the two types, are discussed first.

Graves with stakeholes

Square or sub-square arrangements of four stakeholes were associated with five of the burials. Set back from the occupied front plot boundaries, cremation Graves **7830** and **7859** were central to Plot 7 with Grave **7888** nearby to the north, and Graves **7671** and **7683** were immediately west of the large enclosure. While the latter two cremation burials were apparently not located within a defined settlement plot, they observed similar rites to those in Plot 7. The burials incorporated various attributes usually associated with *ustrinum* and *bustum*-type cremations.

In the Scurragh House cremation graves, human remains were deposited along with broken pottery of 3rd- or 4th-century date in shallow elliptical or sub-rectangular pits with varying numbers and arrangements of associated small-diameter stakeholes. There was no evidence for the in situ burning within the graves that would be expected in *bustum*-type burials, such as discolouration of the base and sides, although charcoal was recovered from the cremation pits and most of the stakeholes. Hobnails were found in Graves **7830**, **7859**, and **7683**, and Grave

7859 also contained remnants of an iron bracelet, which was the only example of personal adornment recovered from the cremation burials.

Whilst the function of five internal stakeholes in Grave **7859** was unclear, if reminiscent of characteristics usually associated with *bustum*-type cremation burials, the substantial timbers required to support a pyre (in this case a *bustum* cremation), as indicated by the size of the postholes found within a grave at Colchester (Hilts 2013a), demonstrates that the examples in Grave **7859** did not serve this purpose. The majority of the burnt bone was found in the area between the stakeholes, and it was the opinion of the excavator that they represented part of a container for the remains.

While it was common in the Roman world for cremated remains to be collected from the pyre into a container for transfer and interment, such as a pottery or glass vessel, metal canister, wooden box, bag or other organic container (Philpott 1991, 8, 28), there is no specific evidence to indicate the transfer process of cremation remains from the pyre site at Scurragh House as for an *ustrinum* cremation, nor was any pyre site identified. There is evidence that an urn containing cremated remains could, where placed in a tomb, be left open rather than sealed, potentially for a considerable period of time (Lepetz 2017, 230–2), and the concept of continued interaction with the dead is well documented, such as in the case of 'pipe' burials, where a tube led vertically from the surface to the dead (Philpott 1991, 28), or Italian burials, where the upper half of an amphora projected above the burial and doubled as a grave marker (Toynbee 1971, 87). Comparison of the levels of cremation urns with reconstructed Roman ground levels at Colchester has led to the suggestion that many of the vessels were left projecting (Pooley *et al*. 2011, 32 and fig. 1.17), while Weekes (2017a, 110) has suggested that certain objects in cremation burials within the cemetery at St Dunstan's Terrace, Canterbury, could have acted as lids that permitted continued access to the human remains below. It is conceivable that the arrangements at Scurragh House conform to such a pattern of continuing access, with the stakes representative of a secondary part of the rite.

In Graves **7671** and **7683**, the cremation deposits were recorded in two levels and the pottery was almost exclusively found within the upper part of the grave fill, indicating that it was added late in the burial process. None of the potsherds had been burnt, and therefore they may have been smashed during the burial proceedings, as opposed to them being pyre goods. The pots were exclusively types used as drinking vessels, similar to the pattern noted at Bainesse Cemetery (see Chapter 3), where it is suggested that the presence of numerous residual sherds from such vessels reflected surface activity either during the funeral or resulting from residual material left on the ground from previous funerals. It seems possible that the pots were used for quenching the ashes with wine, for pouring a libation to the gods, or drinking a toast to the deceased prior to their destruction and sealing of the grave as has been suggested for example at Welford on Avon, Warwickshire (Booth 1994). Notably, some of the vessels at Scurragh House were apparently already old when used in the funerals (see Chapter 7); for example, that in Grave **7683** was of a 2nd- or 3rd-century type. Despite providing a relatively wide calibrated radiocarbon date (2nd–4th century), Grave **7683** is considered likely to lie within the latter half of that range based on its similarity to the other cremation burials, which were all of 3rd- to early 4th-century date. Sherds of a 2nd-century greyware jar found in cremation Grave **7830** may belong to a curated vessel, given the mid-3rd- to late 4th-century radiocarbon date for the human remains and the fact that the grave cut through a soil layer (**7921**) containing a 3rd-century pottery assemblage.

The stakeholes around cremation Graves **7830**, **7859**, **7671** and **7683** were placed in relation to the pit with varying degrees of accuracy, assuming that centrality of the cremation pit was desirable. For example, those around Grave **7830** in Plot 7 were offset to the north, though whether this was a purposeful act during the burial rite or happened at a later date because the cremation pit was no longer visible is unknown. Given their diameters (c.5–10cm), the stakes would probably have been insufficiently substantial, and the footprint of each group much too small, for them to have represented supports for effective cremation pyres (and similar stakeholes were also present around an inhumation). Evidence for in situ burning, which might suggest involvement of the stakes in part of the burial rite, was inconclusive.

The empty sub-rectangular shallow-sided pit of possible Grave **7888**, which aside from the absence of human remains and charcoal, also broadly conformed to this rite, including associated stakeholes and the accompaniment of pottery similar to that recorded in the four certain cremation burials (Graves **7830**, **7859**, **7671** and **7683**). Possible Grave **7888** may have been prepared to receive a cremation that was never interred, though sherds of a 3rd-century or later Nene Valley beaker were present and may be associated with an inhumation with no surviving bone. There was no sign of burning in or around the stakeholes, which further supports the notion that the grave represented either a variation on the rite seen in the other cremation burials, was never followed through, or perhaps it may have been a cenotaph for someone who's

remains were unavailable for interment.

Timber structures more substantial than those at Scurragh House have been found in association with Roman burials both in Britain and beyond. Although the role of stakes in the burial rite seen at Scurragh House remains uncertain, tentative comparison can be drawn with arrangements from other Roman period sites. At the 4th-century cemetery at Queensford Mill, Dorchester, series of discontinuous stakeholes surrounding graves were suggested to represent fences or marking posts, arguably supported by the evidence from grave 172, which contained a child burial and was inserted next to grave 151, containing a female individual, perhaps suggesting some form of familial relationship (Durham and Rowley 1972; Harman *et al*. 1978). Illustrated examples from Colchester show graves surrounded by large numbers of closely spaced stakeholes (see Hilts 2013b), presumably representing continuous fences, whereas the stakeholes at Scurragh House suggest a frugal attempt or symbolic representation of the practice exemplified at Colchester. A wooden four-post structure erected over grave 466 at Hyde Street, Winchester, was suggested to have been a grave marker (Wilson 1972, 329). Inhumation JNF228 at Colchester had a posthole cut into each corner of the base of the grave; however, these were partially overlain by the coffin and it was unclear whether they had supported a structure above ground level or had some other function during the funerary process (Pooley *et al*. 2011, 56).

Although there was no evidence for the stakeholes at Scurragh House having had a more direct role in the funerary process, there are examples elsewhere of more substantial arrangements of stakeholes and postholes performing this function, particularly as pyre supports. Four-post structures associated with Roman period cemeteries in the Low Countries have been interpreted as excarnation platforms or pyre-bases (Aarts and Heeren 2017, 132). In Britain, a 'hut' over a grave at Holborough, Kent, which consisted of two rows each of six postholes arranged on either side of the grave, may perhaps be better interpreted as supports for a pyre over a *bustum* burial (Wright 1954, 101–2). At Colchester, a sub-rectangular *bustum* cremation incorporated arrangements of stakeholes with a posthole inside each corner (Hilts 2013b), and numerous stakeholes surrounded another *bustum* pit at Birdoswald on Hadrian's Wall (Wilmott 2010, 19).

The majority of comparable examples, however, were different in scale to the stake-built structures at Scurragh House, which perhaps served either as grave markers, similar to what has been suggested for Queensford Mill, and/or tables for offerings to the deceased, which were subsequently burnt. Their extremely slight form suggests that they were never intended to be permanent, though they do appear to intentionally incorporate components that may have been visible after internment, a trend that is well-represented across Roman Britain (Thompson *et al*. 2016). Truncation of the remains by ploughing had regrettably removed the opportunity to establish some attributes of the graves, but the identification of a unique or rare rite is intriguing and significant for the study of Roman period burial.

In addition to the question of the stakes' function(s), some interesting patterns are discernible in the use of different wood species for pyre fuel and stakes at Scurragh House. It appears that specific species were selected for stakes in Plot 7, while the pyre material contained a wider range of wood types, including the species used for the stakes. Examination of the tree species represented in charcoal from the cremations and stakeholes provides an insight into the possible origins of the fuel and stakes (see Baines, Chapter 9), if not necessarily of the mechanisms by which wood charcoal entered the stakeholes: in Plot 7, the cremation deposit of Grave **7830** contained charcoal of stone fruit, ash and another unidentified hardwood, while the four surrounding stakeholes contained only ash charcoal; three of the stakeholes around Grave **7859** contained only oak charcoal, while the cremation deposit included oak, stone fruit and ash. By the possible temporary military camp, each of the stakeholes around Grave **7683** contained the charcoal of either apple, birch, alder/hazel or another hardwood, while the cremation burial contained dogwood, field maple, stone fruit, alder/hazel, birch, and apple. Finally, Grave **7671** contained apple, ash and birch charcoal, while the stakeholes contained apple and a hardwood. Only in stakehole **7681** was more than one species represented, namely dogwood/guelder rose and alder/hazel.

The pyre-fuel used in the two cremation burials from Field 211 clearly differed from those in Plot 7; the human remains were not as well cremated (see discussion in Chapter 6), and a wide range of wood had been burned in the pyre. These species may have been obtained from wild-growth in hedgerows or copses or, perhaps, from cultivated fruit-bearing species. The use of various species could account for the relatively poor cremation of the bone in the two burials (see Chapter 6). A similar pattern of varied wood supply and poor cremation of the human remains was noted in *bustum* burial **6790** at *Cataractonium* (Field 172; see Chapter 6 and Baines, Chapter 9). Thompson *et al*. (2016) have recognised a widespread pattern within cemeteries associated with military sites across the north of the Roman province, in which incomplete calcination of the bone, suggestive of medium intensity burning, may indicate a standardised

funerary practice.

The cremation burials in Field 211 were located adjacent to the suggested earlier temporary military camp. This may have survived as an earthwork, there being ample evidence that the Roman army regularly left the banks and ditches of such camps intact or only partially slighted when they were decommissioned (Jones 2012, 70). The line of the defences may have been perpetuated by a later Roman boundary that served as the rear of the roadside plots. Therefore, it is uncertain whether the cremation burials were located to benefit from the status of being proximate to a military site or merely placed next to a convenient boundary.

'Back plot' inhumations

A more conventional rite was exemplified by five inhumations (Graves **11803**, **11808**, **11813**, **10825** and **10827**). The presence of so-called 'back plot' burials at Scurragh House represented continuity of a practice observed in other areas of mid to late Roman settlement recorded in the A1 scheme—specifically at *Cataractonium* (Brompton West, see Chapter 4), on the west side of Dere Street, and at Healam Bridge (Ambrey *et al*. 2017, 92-5)—and previously at Bainesse and Catterick Racecourse (Wilson 2002a, 164–84 and 214–5). The phenomenon is further considered in its wider context in Chapter 11. The inhumations at Scurragh House were aligned approximately north–south, and interred parallel to Dere Street along a heavily truncated boundary that separated the putative occupied roadside front and back plots (Plots 7 and 8) near the centre of the settlement at Scurragh House. In addition to the inhumations, a juvenile was interred in the stoke pit of a possible corn dryer (Grave **10712**), which was aligned west-east near the boundary between Plots 6 and 7. The combined dating evidence indicates that inhumation occurred during the 3rd and 4th centuries, while habitation commenced at the settlement.

In common with the graves associated with stakeholes, there were similarities and differences between the burial rites of the back plot inhumations. Because of unfavourable conditions, no human remains survived in Grave **11803**; the poorly-preserved individual in Grave **11808** wore a copper-alloy anklet and hobnailed shoes; hobnails were present in Grave **11813**, but the skeleton was in a poor condition; Grave **10827** contained a possible coffin stain and some skeletal remains, but a jet and glass necklace was its defining feature. The inclusion of Nene Valley Beakers sherds was common to inhumation Graves **11803**, **11808** and **10172** (see Chapter 7), and is considered an integral part of the inhumation rite at Scurragh House, though complete vessels were absent. However, as noted by Leary in Chapter 7, the two fine ware beakers from ditch group **11831** (Fig. 5.5), which have been dated to the early to mid-3rd century and the late 3rd to mid-4th century, may be derived from burial activity in this area, perhaps originating from disturbed burials or, given the absence of any ceramic grave goods from the graves, are perhaps more likely to be from ritual activities during and subsequent to the burial process. Considered with the disarticulated bone from the fill of the ditch dividing Plots 4 and 5, the pottery supports the proposal that burials were disturbed and their contents redeposited in features associated with occupation and burial at Scurragh House.

The pottery that accompanied Grave **10825** was unlike other assemblages at Scurragh House. A relatively large and varied assemblage scattered above the skeleton was initially interpreted as disturbed grave goods or remains of a pot smashed purposefully on the coffin before the grave was backfilled, but assessment of the abraded pottery suggests that the vessel derived from earlier activity within the area and was disturbed during the burial, with some being broken when the coffin was lowered into the grave and others perhaps dug out and redeposited as the grave was filled (see Chapter 7). Consequently, it is considered that intact pottery vessels were not habitually used as grave goods to accompany inhumations at Scurragh House, although deposition of broken beakers or small jars in both inhumations and cremation burials following interment of the human remains was almost universal. None of the burials contained complete pottery vessels as 'placed' grave goods, but most contained parts.

The possible corn dryer burial (**10712**) at Scurragh House was offset a short distance from the longitudinal plot boundary and is considered as a variation of the back-plot type. Association between burials and Roman ovens and corn dryers has been noted by many authors (e.g. Dark and Dark 1997, 56; Pearce 1999, 155). At Welton Villa in East Yorkshire, some burials had been "dumped into the backfill of corn dryers" during the later 3rd and the first half of the 4th century (Mackey 1999, 29), or even burnt in them, as in the case of a 4th-century example at Sedgeford, Norfolk (Horsley 2007). At Godmanchester, Cambridgeshire, a decapitated juvenile had been placed in a disused pottery kiln, which had subsequently collapsed on the body (Esmonde Cleary 2000, 129). Closer to the A1 scheme, two burials at Ingleby Barwick, Stockton-on-Tees, had been positioned within or immediately adjacent to disused corn dryers (Willis and Carne 2013, 43 and 52–3). The burial inserted in the corn dryer flue lay within a cist, demonstrating that such a location could be used for formal burials, rather than for disposal or concealment of an unwanted corpse. Scott (1991, 117–8) has suggested that the placing of

infant and juvenile burials with kilns, ovens and corn dryers could have had a possible association with fertility.

Summary

As reported by Thompson *et al*. (2016), it is now recognised that the practice of cremation was predominant in Britain during the early Roman period, with inhumation more common from the mid-2nd century, and predominant from the mid-3rd century to the end of the Roman period in the early 5th century (Pearce 1999). At Scurragh House, however, the common use of the four-stake structures over the burials is a highly distinctive and singular practice not previously identified elsewhere. Hence, it was not 'normal' to the wider population, where the most common type of cremation was an urn or container of burnt bone collected from, but deposited away from, the site of the pyre (Thompson *et al*. 2016). The origin of this burial rite is currently unknown but may suggest that the relatively short-lived settlement at Scurragh House comprised a distinct group of people, possibly with military associations. It is regrettable that the extremely poor condition of the human remains at Scurragh House precludes any scientific investigation of the geographic origins of the people buried there.

Two altars dedicated to Mars Condates and Mars (Tomlin 2016) were found in a well and a watering hole on the Scurragh House site. Can these finds provide a clue to the identity of the people who were buried there, given that the settlement itself was lost during construction of earlier phases of the A1? The dedication to Mars Condates is unusual, and it is possibly significant that the only other four attested occurrences of such a dedication were found in association with military sites in nearby County Durham at Bowes, Piercebridge and Chester-le-Street (all antiquarian finds at some distance from their respective forts; RIB 731, 1024 and 1045; Collingwood and Wright 1965), and further afield at Cramond on the Antonine Wall (RIB III 3500; Tomlin et al. 2009). This association perhaps supports the notion that the Scurragh House settlement was founded by people who were associated with one of the local forts. The high proportion of cremation burials at such a late date could support this hypothesis, cremation remaining popular with the army in the north of the province into the 4th century (Petts 2009, 163). In common with many other examples at the northern frontier regions in particular (McKinley 2015; Petts 2009), cremation persisted at Scurragh House long after it had ceased to be the dominant funerary rite on the continent (Mattingly 2006; Philpott 1991).

SCOTCH CORNER (FIELDS 228 AND 265)

Three inhumations were excavated in fields immediately to the north of Scotch Corner. One individual was probably buried during the 1st century AD, while the other two were of Anglian and later Anglo-Saxon date. Another burial adjacent to the Anglo-Saxon grave was retained in situ.

BACKGROUND

Late Iron Age/Early Roman

During the later Iron Age, there is emerging evidence for dense occupation and a developed network of tracks and enclosures extending from Scotch Corner, through Melsonby, to the major 'royal' complex at Stanwick. The Late Iron Age at Scotch Corner was characterised by a complex system of rectilinear enclosures and trackways associated with a Brigantian settlement of unexpected scale and significance. The settlement probably functioned as a trading and supply centre between AD50–60, prior to Roman annexation during the early Flavian period. The central part of the site was subsequently adopted as the junction of the Roman road over the Stainmore Pass (now the A66) and Dere Street (Fell 2017). The complete archaeological remains will be discussed in a forthcoming monograph, along with a consideration of the effects of early 1st-century contact with Rome, and the impact of subsequent conquest (Fell forthcoming).

By the middle of the 1st century AD, the settlement core at Scotch Corner incorporated numerous roundhouses and rectangular buildings and covered an area of at least 40 hectares, stretching for 1.3km on a north-south axis. The extent to which the settlement continued beyond the end of the 1st century is currently unclear. Despite the scale of the Scotch Corner settlement, and the extent of areas subject to archaeological investigation, only one inhumation associated with the early settlement was found during the A1 scheme excavations. The limited evidence for Late Iron Age burial in the area (from Stanwick and Scorton Quarry) is described in Chapter 1.

Anglo-Saxon

Although there is little evidence for any substantial settlement at Scotch Corner continuing into the later Roman period, the major Roman roads and their junction appear to have undergone continuous modifications but continued in use. Evidence from the A1 scheme excavations suggests that the original Roman route approached from the south and then turned west at Scotch Corner, towards the Stainmore Pass. The route of Dere Street northwards towards the Tees crossing at Piercebridge was a secondary addition, initially diverging from the original route slightly after the westward bend. Subsequent iterations of the north-south route as it gained significance gradually served to straighten the 'kink' in the junction, leaving the route of the Great North Road immediately to the north of Scotch Corner still used up

until to the 1950s. Dere Street is recorded during the 3rd century as *Iter* 1 in the Antonine Itinerary (Hind 2007). The 7th-century Ravenna Cosmography records various lists of settlements, although the sequences in which these were identified are generally not considered to reflect routeways that were in use during this period. In the north of England, however, the settlements of Lanchester, Binchester, Bowes, Catterick, York and Brough-on-Humber are named in that order (Rivet and Smith 1979, 208). Although Bowes lies on the Stainmore Pass route to the west, the remainder follow the line of Dere Street.

The name 'Dere Street' is of Anglo-Saxon origin, and means the road leading to the Anglian kingdom of Deira (Roberts 2008, 157). Given that Deira was one of the precursors of the later Anglo-Saxon kingdom of Northumbria, it is plausible that the name was created in the early Anglo-Saxon period and persisted into later periods (Craster 1914, 32). Dere Street was first mentioned by this name in the anonymous Historia De Sancto Cuthberto (HSC), finalised sometime after AD1031, but which undoubtedly drew on earlier sources of information for its content. In discussing the construction of a new church in the vill of Gainford by Bishop Ecgred in the mid-9th century, the limits of the vill are described by the author as being "…from the River Tees as far as the Wear, and from the road that is called Dere Street as far as the hill toward the west, and beyond the River Tees three miles towards the south and six towards the west" (South 2002, 50–1). The name appears again in one of the surviving manuscripts of Symeon of Durham's Libellus de Exordio atque Procursu istius hoc est Dunhelmensis Eccleseie (LE), which describes a land grant made in the later 9th century (Rollason 2000, 126). While there is less evidence for continuing early medieval use of the Roman road running west from Scotch Corner, it is of note that Eric Bloodaxe, last Viking king of York, was killed while using the Stainmore route across the Pennines in the mid-10th century.

No previous archaeological evidence for the early post-Roman period has been found in the vicinity of Scotch Corner. Early Anglian activity is attested at both Catterick and Bainesse to the south and Piercebridge to the north, suggesting that there would probably have been traffic along Dere Street that linked the two. The modern settlement pattern largely reflects that of the later Anglo-

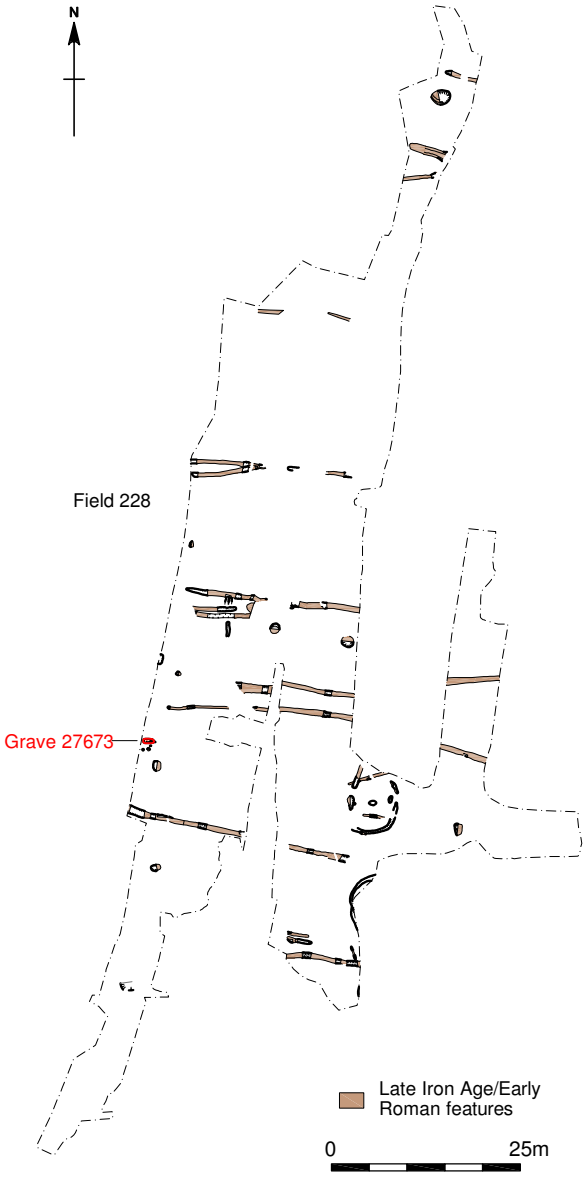


Figure 5.35: location of Grave 27673 in Field 228.

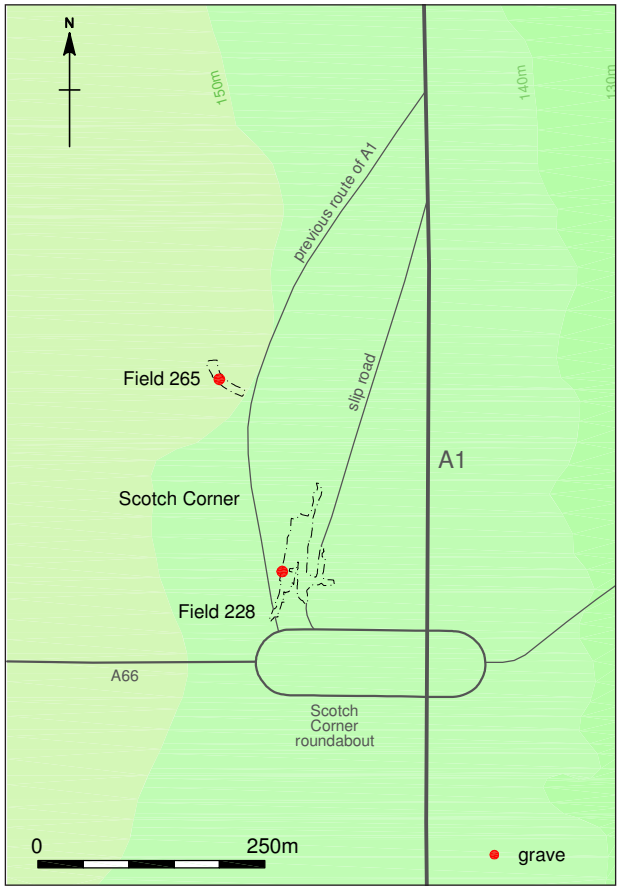


Figure 5.34: location of Fields 228 and 265 at Scotch Corner.

Saxon period, and suggests that the road junction at Scotch Corner would probably have been quite isolated, as villages, such as Middleton Tyas, largely avoided the lines of both Dere Street and the Stainmore route (although Catterick and Piercebridge were exceptions). The name Middleton is also of Anglo-Saxon origin and was recorded in the Domesday survey of 1086 (Page 1914, 191); however, there is no evidence that the village existed as early as the time the Scotch Corner burials took place. Similarly, the deserted medieval village of Kneeton, located between Scotch Corner and Barton, does not appear in records before Domesday, although this does not preclude its existence before this date.

SITE DESCRIPTION

The burials at Scotch Corner were found in two areas (Fig. 5.34). In Field 228, which is located close to the north-western corner of the modern roundabout, a single burial (Grave **27673**) was discovered cut into the natural boulder clay. It appeared to have been located with reference to the east-west aligned boundaries that are believed to have formed part of a Late Iron Age enclosure system, marked as Late Iron Age/Early Roman features on Figure 5.35.

GRAVE CATALOGUE

Grave 27673

The grave backfill (**27668**) consisted primarily of redeposited natural boulder clay. Multiple attempts at obtaining a radiocarbon date for this burial failed, and dating relies purely on the presence of four residual Roman pottery sherds from the backfill. These included two reduced coarseware sherds from the base of a jar and two undiagnostic brown sandy ware sherds of an early fabric, which is of a type found elsewhere at Scotch Corner in pre-Flavian or early Flavian forms (for further discussion see Fell forthcoming).

In a small stripped area within Field 265, 250m to the north-west, archaeological remains primarily related to a succession of metalled hollow-way and road surfaces, and their associated deposits and features. These included what has been interpreted as the initial alignment northward of Dere Street after it diverged from the westward trans-Pennine route. After the original road alignment was abandoned, it remained as a linear earthwork, and at least three burials were subsequently cut into its flanks. These were Grave **31507** on its north-western side and Graves **29975** (not excavated) and **31532** on its south-eastern side. The graves were all orientated parallel to the earthwork (Fig. 5.37).

Table 5.13: grave catalogue for Grave 27673.

Grave cut 27673	
Orientation	E-W
Max. dimensions	1.55m x 0.60m x 0.22m deep (truncated)
Associated contexts	SK27666; Fill 27668
Skeleton 27666	
Posture	Semi-flexed, lying on left side. Head lying on left side, facing south. Legs flexed 90 degrees at knee with left leg overlying right leg at level of tibia.
Arm position	Left arm slightly flexed
Sex	-
Age	26-35
Fragmentation	Severe
Condition	Very poorly preserved
Dental pathology	Calculus, caries, retained 2nd deciduous mandibular molars
Pathology	None observed
Stature (mm)	-
C14 date	Failed
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	Pottery sherds x2 (Fabric GRB); pottery sherds x2 (Fabric BSA); magnetic matter
Environmental	Charcoal; mollusc
Interpretative date	1st century AD or later

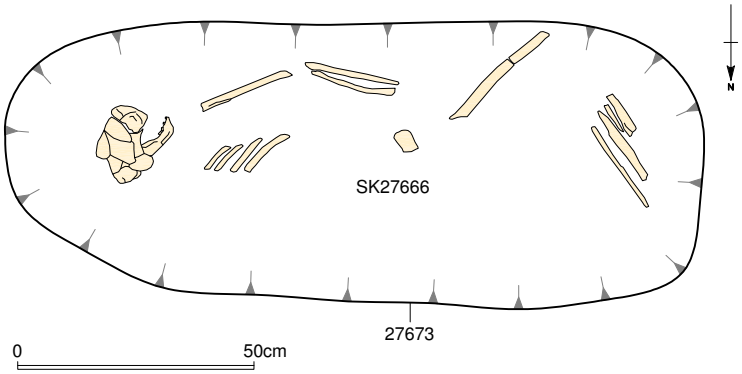


Figure 5.36: plan of Grave 27673.

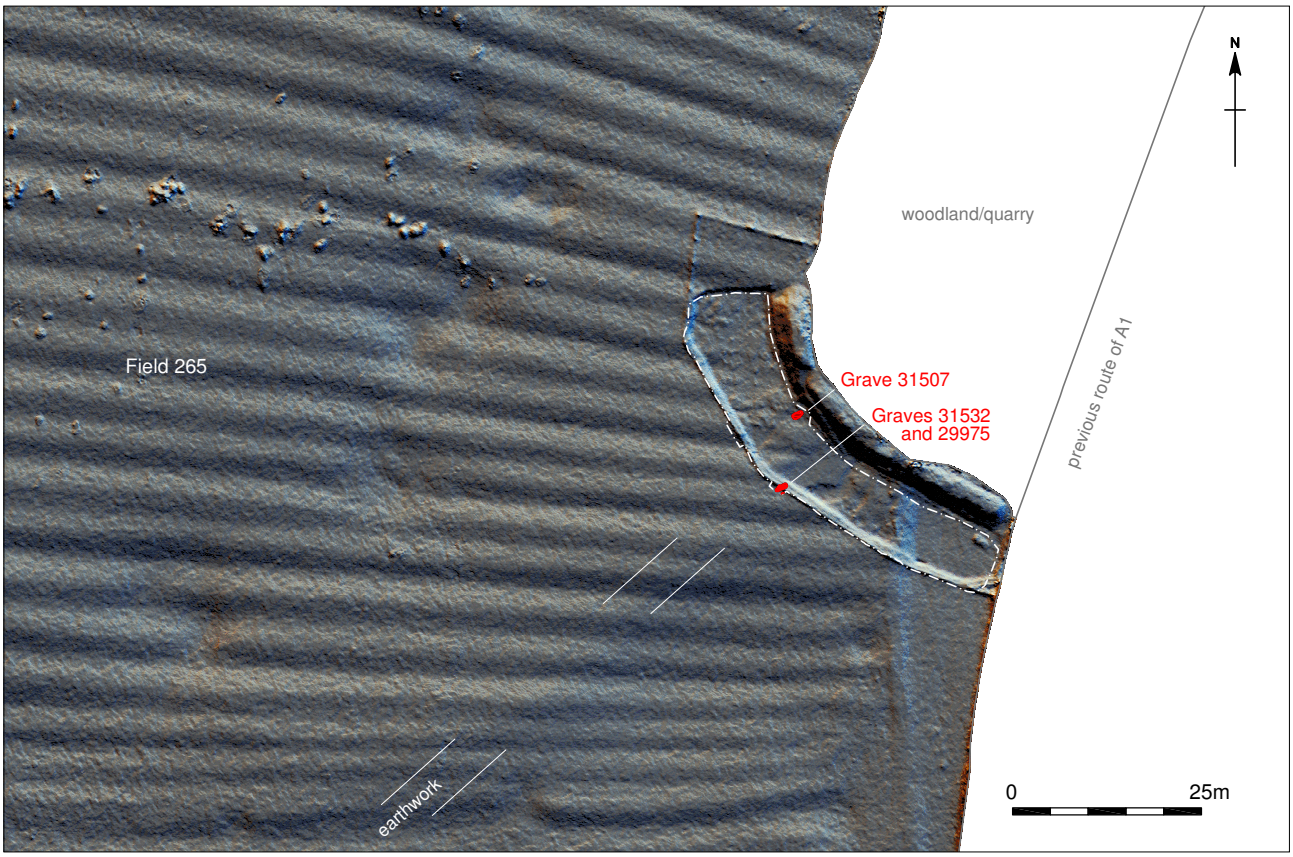


Figure 5.37: the three burials in Field 265 in relation to the earthwork of the disused Roman road.

Grave 31507

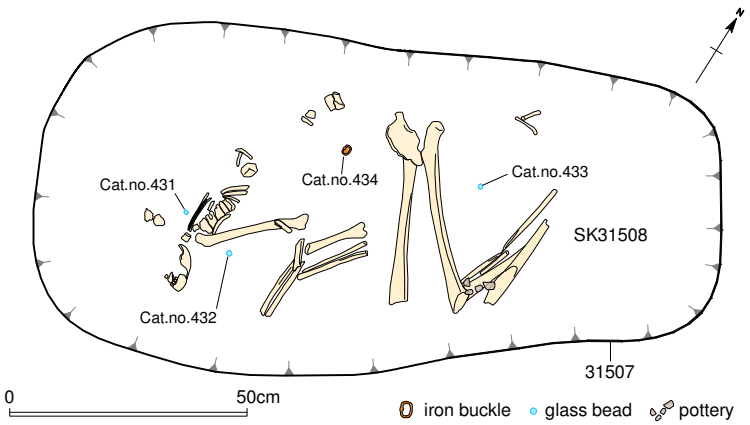


Figure 5.38: plan of Grave 31507.

This grave had been cut through soil and occupation layers down to (and slightly into) the underlying disused Roman road, so that part of the skeleton lay on the former road surface. The grave had been disturbed by a north-west to south-east aligned boundary ditch, heavily truncated by a later plough furrow and also disturbed by roots and animal burrows. However, the cut appeared to have been slightly trapezoidal in shape with rounded corners.

The iron belt buckle (Cat. no. 434) was found near its pelvis and was probably in situ. Four glass beads, presumably representing grave goods, had been dispersed as a result of plough damage.

Figure 5.39: photograph of Grave 31507.

Figure 5.40 grave goods associated with Grave 31507.

Table 5.14: grave catalogue for Grave 31507.

Grave cut 31507	
Orientation	ENE-WSW
Max. dimensions	1.32m x 0.47m x 0.05m deep
Associated contexts	SK31508; Fill 31509,
Skeleton 31508	
Posture	Flexed at 90 degrees, lying on right side, torso in slightly crouched position. Position of mandible suggested skull would have been facing SSW. Legs fairly tightly flexed at knee, left leg over right
Arm position	Left arm fairly tightly flexed, right arm very tightly flexed, so hands would have been in front of face
Sex	-
Age	13-18
Fragmentation	Severe. Skull heavily disturbed by furrow, only mandible and small fragments of cranial bones remaining. Hands removed by furrow. Patella on right and left legs missing. Only some small displaced bones of the feet remaining.
Condition	Poor
Dental pathology	-
Pathology	-
Stature (mm)	-
C14 date	cal AD561–651 (human bone; 1451±29 BP, SUERC-73025(GU43710))
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	Cat. nos 431–433 glass beads x3; Cat. no. 434 iron belt buckle
Other finds	RF13017 iron nail; pottery sherds x59 (Fabric CTA2)
Environmental	-
Interpretative date	Mid-6th–mid-7th century

Grave 31532

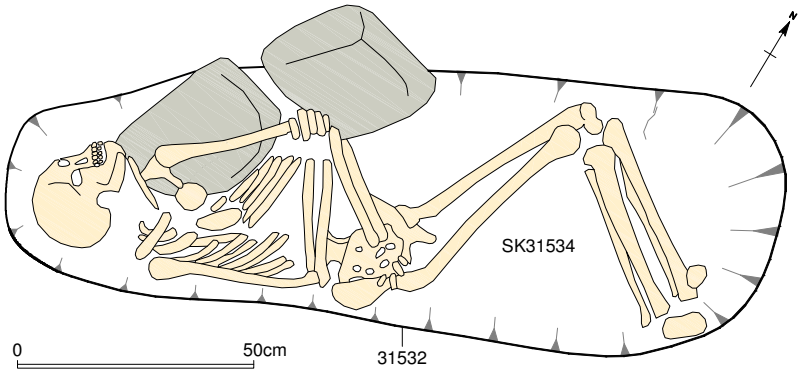


Figure 5.41: plan of Grave 31532.

Grave **31532**, which lay 9m from Grave **31507**, was aligned from south-west to north-east. It was clearly apparent along its eastern edge, but the western side could not be determined precisely, as it was cut into a slump of large boulders that formed the south-eastern edge of the underlying former roadway. The skeleton of an older male possessed a mixture of African and Caucasian traits, suggesting he was of mixed ancestry (see discussion in Chapter 6).

Inhumation Grave **29975** was observed in the adjacent trench edge section but was left in situ. Like Grave **31532**, it had been cut through a sand layer overlying the Roman road surface and sealed by a relict ploughsoil horizon. Its position was staggered from Grave **31532**, but also appeared to be orientated from south-west to north-east, parallel with the edge of the underlying Roman road.

A fragment of human cranial vault, likely originating from an adult, was recovered from buried ploughsoil layer **31501**. It did not derive from the individual in Grave **31532**, which had a complete skull, and the bone

was much better preserved than that of the skeleton in Grave **31507**. This suggests that it may represent a fourth burial that has been destroyed by ploughing over the Roman road.

Figure 5.42: photograph of Grave 31532.

Table 5.15: grave catalogue for Grave 31532.

Grave cut 31532	
Orientation	SW-NE
Max. dimensions	1.70m x 0.40m x 0.26m deep
Associated contexts	SK31534; Fill 31533
Skeleton 31534	
Posture	Semi-flexed, lying on left side. Legs flexed 90 degrees at knees, feet together, right foot slightly overlapping left foot
Arm position	Upper arms alongside body. Left arm semi-flexed at elbow with hand over right hip. Right arm flexed 90 degrees at elbow across body with hand grasping left elbow
Sex	Male
Age	46 yrs +
Fragmentation	Slight. Feet largely truncated
Condition	Good
Dental pathology	Externally and internally penetrating abscess, calculus, caries, DEH and periodontal disease
Pathology	Agenesis of left and right styloid for MC3. Possible osteochondritis dissecans on distal articulation of R MT1. Asymmetry of manubrium and sternum
Stature (mm)	c.1770mm or 1830mm (uncertain ancestry)
C14 date	cal AD713–890 (human bone; 1210±26 BP, SUERC-73017 (GU43704))
Grave contents	
Coffin	-
Ceramic vessel	-
Grave goods	-
Other finds	-
Environmental	-
Interpretative date	8th–9th century

DISCUSSION

The semi-flexed position of the individual buried in Field 228, together with the lack of grave goods, represents a continuation of the local Late Iron Age burial tradition described in Chapter 1. The position of the grave, in an enclosure containing a roundhouse, also supports this interpretation, given that a number of similar Late Iron Age burials at Stanwick were placed adjacent to occupied areas rather than in a dedicated cemetery (Haselgrove 2016, 442). Several attempts to radiocarbon date bone from the skeleton at Scotch Corner failed due to insufficient surviving collagen, and the best evidence that could provide a date for the burial was the (residual) 1st-century Roman potsherds found in the grave backfill.

Both of the Anglo-Saxon burials in Field 265 were also placed on their sides in a flexed position. Lucy (2000) has discussed the greater incidence of flexed or crouched Anglo-Saxon burials north of the Humber but has dismissed it as evidence for the continuation of any native 'British' burial tradition, since it primarily occurs in 'Final Phase' burials of the 7th and early 8th centuries.

The Anglo-Saxon burials had been located with reference to a redundant iteration of Dere Street, which had become a slip road. By the time of the burials, the early road appears to have been covered by soil and survived as a low earthwork. Hence, its original form and function may no longer have been apparent, although an 'active' roadway probably existed immediately to the east. As a result, it is unclear whether the burials should be regarded as 'roadside', earthwork or 'boundary/liminal' interments. Equally, it is unclear to what extent the burials represent isolated and unconnected funerary events, separated in time by several centuries, or whether they represent part of a more extensive and relatively long-lived cemetery that has been mostly truncated by later agricultural activity or was located beyond the small excavated area. The excavation may have encountered part of a burial ground focused on earthworks around the Roman road junction (which lay a short distance to the south). The latter scenario may be supported by both the unexcavated burial observed immediately to the south of the investigated area and the disarticulated cranial fragment recovered from an overlying soil layer.

As a result of increasingly routine radiocarbon dating of human remains, it is becoming apparent that early medieval burials that were placed in isolated locations away from contemporary cemeteries or, for the later part of the period, churchyards, are relatively common. In the last decade alone, such burials have been recognised within the vicinity of Scotch Corner at Scorton Quarry, Healam Bridge, Bainesse, and, though dating to a slightly later period, Bridge Farm, Catterick (Rose 2012; Speed and Evans 2013, 18; Ambrey *et al*. 2017, 125–6; see also Chapter 3, this volume). Earlier discoveries, such as those at Fairfield House, Leeming, or Camp Hill, Carthorpe (Lukis 1880, 409; Lewis 1975, 143 and note 225), relied on distinctive and dateable grave goods for their recognition as Anglo-Saxon, and many other unaccompanied burials may have gone unrecognised or unreported.

The late 7th- to early 10th-century cal AD Anglo-Saxon inhumations at Healam Bridge were located adjacent to Dere Street, while the 10th-century Fairfield House burial was cut into the roadway. Therefore, it can be suggested that the Roman road was considered an appropriate place of interment for at least some burials during the early medieval period. Although Anglo-Saxon attitudes to such a location are unclear, the 10th-century Fairfield

Figure 5.43: Grave 31532 in relation to the earthwork of the Roman road, facing south-west.

House burial of a woman wearing ornate Scandinavian oval brooches and accompanied by a probable iron weaving batten (Speed and Walton Rogers 2004, 85 and footnote 79) was certainly not that of an outcast or destitute.

The burials in Field 265 suggest that the presence of the earthwork of the former Roman road may have been the prime factor in their location. By the early medieval period, it is possible that the broad, low bank was no longer recognised as having once been a road. Burial in or near barrows and other prehistoric monuments (including linear earthworks) was common in the early Anglian period (Lucy 2000, 13) and continued in northern England in the 7th and 8th centuries, if not later. It is possible that churchyard burial did not become the norm for most people until the 10th century (Hadley 2002, 210–12). A nearby example of this practice is the late Anglo-Saxon inhumation inserted into the central mound of the Scorton A Cursus (Speed and Evans 2013, 18), which, like the former roadway at Scotch Corner, was a low, broad, linear earthwork.

There is no direct evidence that the former alignment of Dere Street, which crossed the excavated area in Field 265, continued to function as any sort of boundary in the post-Roman period, although its survival as a linear earthwork bank (Fig. 5.43) does suggest incorporation into the subsequent agricultural landscape, perhaps as a plough-headland. Some Anglian cemeteries were aligned on boundary features, as for example at Hollow Banks Farm near *Cataractonium*, where graves were arranged in strings parallel to a Roman field boundary (Speed 2002). There is considerable evidence for burial in liminal locations during the Anglo-Saxon period, with increasing exclusion of the remains of social deviants to such locations (Reynolds 2002, 187–8). However, other than their suggested liminal location near a crossroads, there is nothing from the early medieval graves at Scotch Corner to suggest that they represent an execution cemetery, as defined by Lucy and Reynolds (2002, 21–2), and ordinary cemeteries are also found in boundary locations.

CHAPTER 6
HUMAN REMAINS

Malin Holst, Katie Keefe and Sophie Newman, with contributions from Tessi Löffelmann

INTRODUCTION

This chapter presents the results of the osteological analysis of the human remains excavated during the A1 scheme. A complete catalogue of the articulated and disarticulated human remains can be found in Appendix E, which is available on the ADS.

The results presented within this chapter are divided into four sections. The first concentrates on the small number of prehistoric burials, which includes four isolated cremation burials from four different fields, as well as 23 funerary-related deposits of cremated bone. The second section focuses on the human bone recovered from Bainesse Cemetery and its surrounding fields. This includes the analysis of 131 inhumations for which human bone or teeth survived, 17 cremation burials, 1,074 unburnt disarticulated human bone fragments and 45 deposits of disarticulated burnt bone, which date primarily to the Roman period. The third section encompasses the human remains recovered from the Roman fort and civilian settlement of *Cataractonium*, comprising of 31 inhumations, nine cremation burials (including one *bustum*) and 508 disarticulated human bone fragments. The fourth section concludes with the human remains excavated from four additional fields, including nine inhumations, four cremation burials and 59 fragments of disarticulated human bone, which date to the Roman period. AMS dating was attempted for all burials containing bone and was successful in 119 inhumations, 32 cremated bone assemblages, five funerary-related deposits and three fragments of disarticulated bone, giving a reliable indicator of date for each burial area. Discussion of the prehistoric and early medieval burials as a whole will be undertaken within their appropriate sections (as they typically relate to specific areas within the overall excavation). The chapter concludes with a more extensive discussion of the Roman burials recovered during excavation, as these form by far the largest proportion of the human remains recovered from the A1 scheme.

METHODS

The articulated skeletons (those for which burial context could be determined) were analysed according to accepted standards for the recording of human remains (Brickley and McKinley 2004; Mitchell and Brickley 2017), involving the assessment of preservation and completeness, estimation of age, sex and stature, and the calculation of the minimum number of individuals present within each excavation area. In addition, pathological lesions were recorded and described in detail. The disarticulated bone (i.e. human skeletal material that cannot be separated into discrete individuals and for which burial context cannot be determined due to post-depositional disturbance) was also recorded following accepted guidelines (McKinley 2004a; McKinley and Smith 2017).

The cremated bone was analysed according to the guidelines specified by McKinley (2004b). The bone was passed through a nest of sieves with mesh sizes of 10mm, 5mm and 2mm. The maximum fragment size was measured, bone colour was noted and any identifiable fragments were recorded. An attempt was made to determine age and sex where possible and any pathological lesions evident were described in accordance with the techniques outlined below.

Analysis for the entire assemblage was undertaken by four different osteologists (KK, SN, MH and TL); therefore, it must be acknowledged that some degree of interobserver error will have occurred. To mitigate for this, it was attempted to ensure parity throughout the analysis by using the same standard methods of analysis (outlined below) and identical recording sheets, as well as discussing unusual pathology as a team, with quality control by MH.

PRESERVATION

Skeletal preservation can be influenced by a multitude of factors (see Henderson 1987; Garland and Janaway 1989; Janaway 1996; Spriggs 1989) and is assessed by observation of the severity of bone surface erosion and post-mortem breaks. Surface preservation was assessed using the seven-category grading system defined by McKinley (2004a) for inhumations, ranging from 0 (excellent) to 5+ (extremely poor). Finally, the completeness of the inhumed skeletons was assessed and expressed as a percentage, whereby the higher the percentage, the more complete the individual. For disarticulated bone, completeness was expressed as a percentage of the bone present.

MINIMUM NUMBER OF INDIVIDUALS

A count of the 'minimum number of individuals' (MNI) recovered from a cemetery is carried out as standard procedure in osteological reports on inhumations to establish how many individuals are represented by the articulated and disarticulated human bones, without taking the archaeologically defined graves into account (McKinley and Smith 2017, 20). This is achieved by the identification of the maximum number of duplicated skeletal elements within the sample as a whole.

ASSESSMENT OF AGE

Age was estimated using standard ageing techniques, as specified in Scheuer and Black (2000a; 2000b) and Cox (2000). For non-adults, age was estimated using the stage of dental development (Moorrees *et al*. 1963a; 1963b), dental eruption (Ubelaker 1989), measurements of long bones and other appropriate elements and the development and fusion of bones (Scheuer and Black 2000b). In adults, age was estimated from stages of bone development and degeneration in the pelvis (Lovejoy *et al*. 1985; Brooks and Suchey 1990) and ribs (modified version of methods developed by İşcan *et al*. (1984; 1985) and İşcan and Loth (1986), as provided in Ubelaker (1989)), as well as examination of patterns of dental wear (Miles 1962; Brothwell 1981). When determining the age of an articulated skeleton, it is preferable that as many techniques as possible are combined to arrive at the estimated age. Thus, when examining disarticulated bone, the ability to estimate age is limited by the nature of the material. Therefore, for these contexts, all age estimates provided were based on a single bone and will not be as reliable as estimates provided for articulated skeletons, where multiple sources of evidence were used.

Following assessment of age, individuals were placed into standard age categories based on Falys and Lewis (2011). Non-adults were subdivided into 'foetus' (f: where the age estimate clearly fell below 38–40 weeks *in utero*), 'perinate' (p: where the age estimates converged around birth), 'neonate' (n: where the age estimate suggested 0–1 month), 'infant' (i: 1–12 months), juvenile (j: 1–12 years), which was subdivided into younger (yj: 1–6 years) and older juvenile (oj: 7–12 years) where possible, and adolescent (ad: 13–17 years). Adults were divided into 'young adult' (ya: 18–25 years), young middle adult (yma: 26–35 years), old middle adult (oma: 36–45 years) and mature adult (ma: 46+ years). A category of 'adult' (a) was used to designate those individuals whose age could not be determined beyond the fact that they were eighteen or older. However, it is important to note that several studies (for example Molleson and Cox 1993; Molleson 1995; Miles *et al*. 2008) have highlighted the difficulty of accurately determining the age-at-death of adults from their skeletal remains, with age-at-death frequently being underestimated for older individuals. As such, the categories defined here should be taken as a general guide to the relative physiological age of the adult, rather than being an accurate portrayal of the real chronological age.

SEX DETERMINATION

Assessment of sex involves examination of the shape of the skull and the pelvis and can only be carried out once sexual characteristics have developed during late puberty and early adulthood. Sex determination was carried out using standard osteological techniques, such as those described by Mays and Cox (2000). Evidence from the pelvis was favoured, as its shape is directly linked to biological sex, whereas the shape of the skull can be influenced by factors such as age (Walker 1995). Measurements of certain bones were used to supplement the morphological assessment (Bass 1987). As with estimation of age, sex estimation in disarticulated remains could only be carried out where appropriate bones were preserved (i.e. pelvis and skull).

ANCESTRY

The term 'ancestry' is used to describe the genetic background of individuals. An attempt was made to assess whether the skeleton was Caucasian or African, based on the visual appearance of traits in the cranial skeleton, as described by Byers (2010, 154–65). Unfortunately, the expression of the various traits used to define ancestral groups can be ambiguous and assessing them is subjective; consequently, it can be very difficult to determine ancestry (*ibid.*, 152–4).

METRIC ANALYSIS

Final adult height (stature) can be influenced by a variety of factors, some hereditary and some environmental in nature. As such, it has been noted that average height within populations has fluctuated between chronological periods, with a general increase in height through to the early medieval period, followed by a sharp decline in the post-medieval period (Roberts and Cox 2003). Stature can only be established in skeletons if at least one complete and fully fused long bone is present, but preferably using the combined measurements of the femur and tibia. Stature was calculated using a regression formula developed upon individuals of known stature (Trotter 1970).

Different formulae have been developed for different ancestral groups (*ibid.*). Consequently, where ancestry had been identified as 'white' or 'black' (see above), the 'white' or 'black' regression formulae were applied. For individuals of unknown ancestry, the 'white' regression

formulae were applied, whereas for those assessed as being of mixed ancestry the 'black' formulae were used.

The *meric* index is a method of calculating the shape and robusticity of the femoral shaft, whereas the *cnemic* index describes the shape of the tibial shaft; both were calculated using standard methods as outlined by Bass (1987).

Almost all crania were too fragmented to allow measurements to be taken, except for one. Standard cranial measurements, as listed by Bass (1987) and Buikstra and Ubelaker (1994), were undertaken where possible.

NON-METRIC TRAITS

Non-metric traits are features arising from normal variation within the human skeleton and comprise additional sutures, facets, bony processes, canals and foramina. It has been suggested that such features can be suggestive of hereditary affiliation between skeletons (Saunders 1989). However, following extensive discussion regarding the origins of non-metric traits in the osteological literature, it is now thought that, while most non-metric traits have genetic origins, some can be produced by factors such as mechanical stress (Kennedy 1989) or environment (Trinkhaus 1978). A total of 30 cranial (skull) and 30 post-cranial (bones of the body and limbs) non-metric traits were selected from the osteological literature (Berry and Berry 1967; Finnegan 1978; Buikstra and Ubelaker 1994) and systematically recorded.

SKELETAL PATHOLOGY

The analysis of skeletal manifestations of disease can provide a vital insight into the health and diet of past populations, as well as their living conditions and occupations. There are a multitude of categories covering the types of pathology that can manifest on the skeleton (e.g. congenital/developmental conditions, metabolic disease, joint disease and infectious disease), in addition to the myriad injuries that may have occurred in past populations. As such, the recording techniques and aetiologies (potential causes) for any pathological changes seen within the human remains recovered from the excavations will be described as they first appear within each section, to avoid repetition.

DENTAL PATHOLOGY

Analysis of the teeth from archaeological populations provides vital clues about health, diet and oral hygiene, as well as information regarding environmental and congenital conditions. All teeth and jaws were examined macroscopically for evidence of pathological changes. Dental pathology was recorded and prevalence rates calculated by tooth or tooth position where appropriate. Due to the number of dental pathologies that can occur, as with the skeletal pathologies, recording techniques and aetiologies will be described as and when they first appear within the text.

COMPARATIVE POPULATIONS

To enable a more in-depth discussion to be undertaken regarding the results of the skeletal analysis in relation to each time period in question, numerous contemporaneous skeletal assemblages from past excavations were identified. Tables 6.1 to 6.3 below summarise the comparative populations dating to the Bronze Age and Roman periods that will be utilised throughout the remainder of the chapter.

PREHISTORIC BURIALS

Four isolated cremation burials were identified at four different sites, Bowbridge Lane (Field 145), Killerby (Field 259), Catterick Racecourse (Field 174) and Scotch Corner (Field 258), as well as 23 contexts at Bowbridge Lane that contained cremated bone and were thought to be funerary-related deposits. These burials are discussed in further detail in Chapter 2.

BOWBRIDGE LANE

Grave **10003** and additional funerary-related deposits

A single urned cremation burial (Grave **10003**), dating to the Late Bronze Age, and 23 Late Bronze Age funerary-related features containing traces of cremated bone were recovered at Bowbridge Lane (see Chapter 2, Fig. 2.10). See Table 6.4 for a summary of the cremation burial data.

Grave **10003** contained 345.1g of bone, while the funerary-related features contained much less (ranging between 0.3g to 11.2g). Previous research from modern crematoria has shown that the average weight of bone recovered from adult cremations tends to range from 1,000.5g to 2,422.5g, with a mean of 1,625.9g (McKinley 1993). Thus, the deposits of cremated bone recovered from Bowbridge Lane are far smaller than what would be expected from a complete adult cremation burial, with Grave **10003** containing only 21.2% of the average weight from modern crematoria, and the funerary-related deposits ranging from 0.02–0.7% of this value. It must be considered that many of the inclusions of cremated bone from within the funerary-related features at Bowbridge Lane, being so small, may not have been intentional burial deposits. This will be discussed later.

The average maximum bone length from Bowbridge Lane was 15.3mm. The bone was well (54.1%) to moderately well preserved (41.7%), with only one poorly preserved

Table 6.1: Bronze Age burials used for comparative analysis.

Site	Date	Cremation Burials	References
A63, Melton	Early to Middle Bronze Age	5	Caffell and Holst 2011
Bush Heath Lane, Harbury, Warwickshire	Middle Bronze Age	39	Newman and Holst 2017
Cheesecake Farm, Norton	Bronze Age	2	Keefe and Holst 2013a
Cross Farm, Stanbury, West Yorkshire	Early Bronze Age	1	Holst 2007a
East Coast Pipeline	Early to Middle Bronze Age	2	Keefe et al. 2015a
Fan Barrow, Talsarn, Ceredigion, Wales	Bronze Age	5	Holst 2012
Glenfield Park, Kirby Muxloe, Leicestershire	Middle Bronze Age	7	Keefe and Holst 2015
Goldthorpe Industrial Estate, Goldthorpe, South Yorkshire	Middle Bronze Age	3	Keefe and Holst 2013b
Jack Hill, Allithwaite, Grange-Over-Sands, Cumbria	Early Bronze Age	12	Keefe and Holst 2017a
Keighley Road, Silsden, West Yorkshire	Early Bronze Age	2	Ponce and Holst 2017
Kirkburn, Driffield, East Yorkshire	Early Bronze Age	1	Caffell and Holst 2009a
Leeds Valley Park, Stourton, West Yorkshire	Early to Middle Bronze Age	7	Holst 2007b
Lubbesthorpe, Leicestershire	Bronze Age	6	Keefe and Holst 2017b
Melton Water Treatment Works, near Brough, East Yorkshire	Early Bronze Age	1	Holst 2004a
Mitchell Laithes, Dewsbury, West Yorkshire	Early Bronze Age	4	Holst 2008
Nosterfield, North Yorkshire	Middle Bronze Age	10	Holst 2003a
Pant y Butler, Llangoedmor, Wales	Early Bronze Age	3	Murphy et al. 2013
Pode Hole Quarry, Peterborough, Cambridgeshire	Middle Bronze Age	12	Keefe and Holst 2017c
Potgate Quarry, Ripon, North Yorkshire	Bronze Age	1	Newman and Holst 2016a
Rossington Colliery, South Yorkshire	Bronze Age	2	Keefe and Holst 2013c
Seven Lows, Fishpool Lane, Delamere, Cheshire	Early Bronze Age	23	Caffell and Holst 2012a
Spofforth Hill, Wetherby, West Yorkshire	Early Bronze Age	1	Newman and Holst 2016b

assemblage (context **10022**; 4.2%). The majority of the cremated bone recovered was white in colour, although some bone fragments in the funerary-related features exhibited tinges of blueish-grey or even had black internal surfaces. According to McKinley (1989), the body requires exposure to a minimum temperature of 500° Celsius over a period of seven to eight hours to achieve complete calcination of the bone. The fact that the bone was not uniformly white throughout the assemblages within some of the funerary deposits may suggest that the bone had not been sufficiently cremated and perhaps the pyres were not tended (Thompson *et al.* 2016).

Most identifiable bone fragments from this field were found in Grave **10003**, with the largest portion deriving from the upper limb. Overall, identifiable bone derived from generic long bone shaft fragments, but also included

Table 6.2: Roman inhumations used for comparative analysis.

Cemetery	Date	Roman Association	Inhumations	Cremation Burials	Reference
Ancaster, Lincolnshire	3rd century	Roadside settlement	327	0	Cox 1989
Baldock, Hertfordshire	1st to 4th century	Roadside settlement	56	60	Keefe et al. 2015b
Driffield Terrace, York	1st to 4th century	Possible gladiator cemetery associated with Roman fort and colonia	82	18	Caffell and Holst 2012b
London Road, Gloucester (Discrete Inhumations)	Late 1st to 4th century	Associated with earlier Roman fortress and later Roman colonia	64	9	Marquez-Grant and Loe 2008
Healam Bridge, North Yorkshire	1st to 4th century	Roadside settlement	25	7	Holst and Keefe 2017
Horncastle, Lincolnshire	3rd century	Walled Settlement	34	0	Caffell and Holst 2007
Lankhills, Winchester	4th century	Roman civitas	284	29	Clough and Boyle 2010
Wattle Syke, West Yorkshire	1st to 5th century	Roadside settlement on Dere Street	37	0	Caffell and Holst 2013

Table 6.3: Roman cremation burials used for comparative analysis.

Site	Date	Cremation Burials	References
Easington to Ganstead Gas Pipeline, East Yorkshire	Roman	3	Keefe and Holst 2011
Healam Bridge, North Yorkshire	Roman	5	Holst and Keefe 2017
Marton to Acomb Landing, Green Hammerton, North Yorkshire	Roman	1	Holst 2009a
Newbridge Quarry, North Yorkshire	Roman	23	Caffell and Holst 2014; Keefe and Holst 2012a
Waterdale, Doncaster, South Yorkshire	Roman	49	Caffell and Holst 2012c
Driffield Terrace, York	Roman	37	Caffell and Holst 2012b
Hungate, York	Roman	2	Holst 2002
Mill Mount, York	Roman	2	Holst 2005b
Blue Bridge Lane/Fishergate House, York	Roman	5	Holst 2003c

recognisable thoracic and lumbar articular facets, rib fragments, distal foot phalanges (toe bones), femoral and tibia shaft fragments. It is surprising that skull fragments were not the most abundant skeletal element in any of the cremated bone assemblages, since the cranial vault is very distinctive and easily recognisable, even when severely fragmented. As such, it often forms a large proportion of identified bone fragments in cremated remains (McKinley 1994).

It is not possible to calculate the MNI for cremation burials because only a token selection of bone from the pyre tends to be buried. Double burials can be identified only if skeletal elements are duplicated, or if skeletons of different ages are represented in one burial. Double burials were not identified in any of the assemblages at Bowbridge Lane.

In all but one of the funerary-related features, the characteristics normally used for age estimation were absent. As such, estimates were made based on less reliable criteria (such as general bone robusticity) and age

categories were widened to account for large margins of error. As such, the bone robusticity suggested that all but one of the individuals with identifiable bone fragments were at least 16 years old but may have been considerably older. Ditch **10101** contained the remains of a juvenile (aged 1–12 years). Sex could not be assessed in any of the assemblages and manifestations of pathology were not observed.

KILLERBY

Grave 6887

Only one burial was identified at Killerby, an unurned cremation burial dating to the Middle Bronze Age (Grave **6887**; see Fig. 2.2 and Table 6.4). It was located between two earth-fast boulders near a hearth and included a burnt bone pin. The cremated bone was in a moderate state of preservation and was white in colour, indicating that it had reached sufficient temperatures and was burnt for long enough to complete the cremation process. While the maximum fragment length retrieved was 36.4mm, the greatest proportion of the bone was derived from the 5mm sieve and was suggestive of a moderate degree of fragmentation. Fragmentation could have occurred if the bone was subject to disturbance while hot (Noy 2000a; Thompson *et al*. 2016), which would potentially be indicative of swift burial of bone following the cremation process. Alternatively, taphonomic factors may have resulted in a heavier degree of fragmentation (Harvig and Lynnerup 2013, 2713). The amount of bone retrieved from the burial totalled 908.2g, representative of 56% of the average bone weight produced by modern crematoria, suggesting that not all of the bone on the pyre was selected for burial.

The majority of the bone fragments recovered were unidentifiable long bone shaft fragments. However, identifiable fragments of the cranium, vertebrae, ribs, hand phalanges and shafts of the upper and lower limbs were also present. The criteria normally used for age determination were absent, but the presence of fully formed hand phalanges suggested that the burial contained an individual of at least 16 years of age (but was potentially considerably older). Several cranial vault fragments were also identified that were much thinner than the majority of cranial fragments recovered and were more porous in texture. This, in addition to the presence of a lower deciduous canine crown (which commences development *in utero* and completes formation by approximately three years of age), was suggestive of the presence of an infant/young juvenile within the burial. Therefore, Grave **6887** possibly contained two individuals of differing ages (one adult and one non-adult). It was not possible to determine sex or identify pathology in the assemblage.

CATTERICK RACECOURSE

Grave 1391

Grave **1391** contained an unurned Middle Bronze Age cremation burial and was the only burial at Catterick Racecourse (Fig. 2.7 and Table 6.4). Only 4.2g of completely calcined bone was recovered, which was moderately preserved and largely derived from the 2mm sieve (therefore was heavily fragmented). The maximum fragment size was 21mm. Considering that the feature was heavily truncated by a modern land drain and ploughing, it seems likely that post-depositional disturbance led to some loss of the original bone deposit. Despite the moderate state of preservation and fragmentation, it was possible to identify the majority of bone fragments, although these mainly consisted of long bones. However, fragments of cranial vault (2.4%), axial bones (4.8%) and identifiable fragments of upper limb (23.8%) were also present. Duplicate bone elements were not found, suggesting an MNI of one. Based on the size and robusticity of a fragment of ulna, the individual was at least 16 years old or older. Neither sex nor any pathological lesions were identified in the assemblage.

SCOTCH CORNER

Grave 15170

Grave **15170** was an isolated unurned Middle Bronze Age cremation burial at Scotch Corner (Fig. 2.5 and Table 6.4). The bone was completely calcined and well preserved, though heavily fragmented, with just under half of the fragments recovered from the 5mm sieve and just under a third from the 2mm sieve. The maximum fragment size was 48.8mm long. The entire assemblage weighed 2,807.8g, which is considerably more than the average quantity of bone expected from a modern cremation (1,625.9g) reported by McKinley (1993). However, the burial appeared to contain the remains of at least two individuals, with two left orbital margins present, which would explain this.

It was possible to identify 74.1% of bone fragments recovered from the burial, most of which were long bone shafts, followed by cranial vault fragments. General bone robusticity of the entire assemblage was suggestive of both the individuals within the burial being more than 16 years of age (adults). Due to the shrinkage and warping of skeletal elements during the cremation process, assessing the sex of any remains must be considered tentative at best; however, facial features, such as a supraorbital ridge and orbital rim recovered from the cremated remains were thought to potentially possess male characteristics. Evidence for pathology was not seen.

DISCUSSION OF THE PREHISTORIC BURIALS

Of the 27 cremation burials/funerary-related deposits identified as prehistoric, only one was urned (a Late Bronze Age cremation burial at Bowbridge Lane). The preservation of the cremated bone assemblages in general varied between moderate to excellent (Table 6.4). Frequently, unurned cremation burials tend to include slightly less bone than urned burials, perhaps because urns offer protection to the remains contained within them; however, this pattern is not consistently seen in previous studies (Allen *et al*. 1987, 211; McKinley 1997, 139) and such a trend was not observed in the prehistoric cremated bone assemblages from the current scheme.

Of the 24 prehistoric features that yielded human bone from which it was possible to estimate age, 23 likely contained at least one adult (95.8%). This excludes Grave **6887** at Killerby, which possibly contained at least one adult and one infant/young juvenile. Potential multiple burials were identified in Grave **6887** (as described above) and Grave **15170** at Scotch Corner, which contained at least two adults. In a previous study, McKinley (1997, 130) identified that an average of 5% of cremation burials contained more than one individual. In these cases, it was thought that they would have been burnt on the same pyre, although instances of individuals having been deposited in an urn consecutively following discrete burning events have also been observed (*ibid*., 142). Most double burials include individuals of different ages, particularly a non-adult and an adult (*ibid*., 142). Data from 149 Bronze Age cremation burials from the Midlands, Northern England and Wales compiled from previous reports undertaken by the authors (see Table 6.1 for a summary of the sites), revealed that multiple burials (two or more individuals in one cremation deposit) were identified in eleven (7.4%) burials. At least two of these contained only adults, but the majority included individuals of different ages, which are easier to identify, since identification is not reliant on duplication of skeletal elements. An approximate age could be established in 107 (71.8%) of the 149 comparative cremated bone assemblages and most of these were adults.

The bone in the majority of the burials was white and thus fully calcined, which is most common in Bronze Age cremation burials in the authors' experience. However, the assemblages from Bowbridge Lane showed a greater variation in bone colouration, frequently exhibiting tinges of grey (consistent with burning at 600°C; Walker *et al*. 2008, 133) and blue and black (300°C; *ibid*.). This is suggestive of incomplete oxidisation (Devlin and Herrmann 2008), which has also been observed in studies from modern crematoria (McKinley 1989, 66). In these cases, insufficient oxidation occurred in bones located more peripheral to the heat source, or falling away from it, or due to variation in thickness of the surrounding soft tissues (Walker *et al*. 2008, 130; McKinley 2016, 21 and 29). In Bronze Age cremations, adverse weather or a lack of sufficient dry wood to maintain a consistently high temperature may also have led to incomplete calcination of the bone (McKinley 1989, 67; McKinley 2016, 26). Manipulation of the pyre during the cremation process promotes complete oxidation and disintegration of soft tissues (McKinley 1993, 136). Therefore, a lack of pyre management may lead ashes to suffocate the flames and inhibit the calcination/oxidation process of the bone. It is also possible that full calcination of the bone was not regarded as an essential part of the process (McKinley 1997, 132), since complete cremation requires a greater degree of effort and time to achieve (McKinley 2008, 163). Of the 149 comparative Bronze Age cremation burials, 145 (92.4%) were white or predominantly white, while two were black with white elements, one was reddish brown and one was grey. A total of 56 (38.6%) of the predominantly white assemblages also contained grey or blue coloured bone.

When comparing the data collected from the funerary-related features at Bowbridge Lane against the definite cremation burials from all four areas, a considerable distinction in weight and size of bone can be observed. On average, the quantity of bone in the cremation burials weighed 1,018.6g, whereas the average bone weight recovered from the funerary-related features was 2.5g. According to McKinley (1997, 137), widely varying quantities of human bone have been recovered from cremation burials dating to the Bronze Age, with between 57g and 2,200g being recovered from the 4,000 undisturbed adult burials she analysed. It is rare that an entire cremated skeleton is selected for burial. In most periods bone was selected from the pyre for burial and it has been shown that collection of elements was relatively random (*ibid*., 131). Wahl (1982, 25) found that archaeologically recovered remains of cremated adults tend to weigh less that those from modern crematoria, as a result of the commonly practiced custom of selecting only some of the cremated bone from the pyre for inclusion in the burial, thereby representing a symbolic, or token, interment.

McKinley (1997, 137) found no associations between the quantity of bone and the age and sex of the individual. However, Harvig and Lynnerup (2013, 2716) found that the overall weight of bone recovered from a cremation can also be affected by the age and sex of an individual, and also the presence of pathology. The temperature at which bone is burnt can also influence the weight of bone attained following cremation, with charred bones weighing less than fully calcined bone (*ibid*., 2717). In 57 of the comparative Bronze Age cremation burials

Table 6.4: summary of cremated bone analysis from the prehistoric cremation burials.

Field	Feature	Context No.	Urned	Date (cal BC)	Bone Colour	Preservation	Weight (g)	% of Expected Bone Quantity†	Largest Fragment	MNI	Age	Sex	Notes
145	Grave 10003	10002	Y	1226–1014 (95.4%)	White and blueish grey	Moderate	354.1	21.8	57.6	1	A	-	Only actual burial in field, east of palisade, centre of site
145	Pit 10008	10006	N	-	White and black internal surfaces	Good	4.1	0.3	24.54	1	A	-	Centre of site, W of palisade
145	Pit 10009	100007	N	-	White and blueish grey	Moderate	2.6	0.2	14.5	1	A	-	SW edge of site
145	Pit 10012	10011	N	1055–890 (92.1%), 880–847 (3.3%)	Black	Moderate	11.1	0.7	17.94	1	A	-	SW of site, W of ditch corner
145	Buried soil 10015	10015	N	-	White	Moderate	0.7	0.04	11.83	1	A	-	Buried soil covering large part of site during funerary phase
145	Pit 10017	10016	N	924–806 (95.4%)	White	Moderate	3.1	0.2	18.57	1	A?	-	Western centre
145	Pit 10019	10018	N	-	White	Moderate	1.7	0.1	4.6	1	A?	-	Western edge of buried soil
145	Pit 10028	10022	N	-	White	Poor	1.1	0.7	12	1	A	-	West of buried soil
145	Pit 10041	10040	N	-	White	Good	2.3	0.1	18.96	1	A	-	West of buried soil
145	Stony layer 10048	10048	N	-	White	Moderate	0.3	0.02	7.6	1	A	-	Stony layer in centre of site
145	Pit 10051	10050	N	-	White	Good	0.5	0.03	11.64	-	-	-	West of buried soil
145	Pit 10065	10064	N	-	White and grey	Good	0.5	0.03	13.6	1	A?	-	NW of buried soil
145	Pit 10067	10066	N	-	White, some grey internal surfaces	Good	2.2	0.1	13.2	1	A	-	Centre of site, W of ditch
145	Pit 10080	10079	N	-	White	Good	0.3	0.02	7.8	1	A	-	Northern part of buried soil, W of ditch
145	Ditch 10082	10081	N	-	White and black	Moderate	11.2	0.7	25.9	1	A	-	In ditch fill, residual

Table 6.4 (cont.): summary of cremated bone analysis from the prehistoric cremation burials.

Field	Feature	Context No.	Urned	Date (cal BC)	Bone Colour	Preservation	Weight (g)	% of Expected Bone Quantity†	Largest Fragment	MNI	Age	Sex	Notes
145	Pit 10089	10087	N	-	White and black internal surfaces	Good	1.2	0.1	10.8	1	A	-	Cuts northern part of buried soil, W of ditch
145	Ditch 10082	10097	N	-	White and black internal surfaces	Good	0.9	0.1	10.29	1	A?	-	Postpipe in ditch
145	Ditch 10101	10103	N	-	White and blueish grey	Moderate	0.9	0.1	12.2	1	A	-	In ditch fill, residual
145	Ditch 10082	10116	N	-	White and blueish grey	Moderate	8.7	0.5	17.91	1	A	-	In ditch fill
145	Ditch 10101	10120	N	-	White	Good	0.3	0.02	12.9	1	J	-	In ditch fill
145	Pit 10123	10122	N	-	White and blueish grey	Good	0.6	0.04	10.1	1	A	-	West of ditch, S part of site
145	Pit 10127	10126	N	-	White	Good	1.8	0.1	10.6	1	A	-	W edge of buried soil
145	Pit 10133	10132	N	-	White and grey	Good	1.8	0.1	16.4	1	A	-	Cuts S part of buried soil, W of ditch
145	Post hole 10134	10135	N	-	White	Good	0.2	0.01	6.7	-	-	-	Eastern edge of site
259	Grave 6887	6888	N	1921–1741 (93.7%), 1711–1700 (1.7%)	White	Moderate	908.2	-	36.4	2	A and I/J	-	Isolated cremation burial with hearth, ca 30m north of ditch
174	Grave 1391	1392	N	1424–1262 (95.4%)	White	Moderate	4.2	0.26	21	1	A?	-	Isolated cremation pit
258	Grave 15170	15171	N	1626–1496 (92.8%), 1476–1460 (2.6%)	White	Good	2807.8	-	48.8	2+	A	M?	Pit east of N-S linear

† Weight of bone is expressed as a percentage of average weight of bone recovered from modern cremation burials (1,625.9g, McKinley 1993). However, this cannot be calculated for non-adults or multiple burials, which have been left blank. Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); F = Foetus (up to 40 weeks in utero); N = Neonate (Birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years).

(Table 6.1) containing adult skeletal remains, weights of bone ranged from 0.1g to 2,569.5g (the latter assemblage included more than one individual), with a mean of 558.54g. However, some of these were likely disturbed and only 21 (36.8%) of the burials were urned and thus protected by the vessel. As such, it is difficult to establish the quantity of bone originally selected for burial. Only primary Bronze Age barrow burials have been found to produce the expected quantity of bone from a cremation burial and, according to McKinley (1997, 142), this may be due to the status of the deceased, with more time being spent on individuals of higher status who are buried in barrows.

The maximum fragment size seen in all of the prehistoric cremated bone assemblages combined was 48.8mm, which is considerably smaller than the maximum average fragment size of 128mm that McKinley (2016, 33) has noted in modern cremations. In addition, for both the definite cremation burials and the funerary-related deposits, the majority of bone was recovered from the 5mm and 2mm sieves (see Table 6.5). This was suggestive of a relatively high degree of fragmentation within the prehistoric burials. Pyre collapse or raking of the hot bone can promote fragmentation along heat-induced fissures. However, fragmentation and destruction of the spongy trabecular bone can also be caused by taphonomic factors (Harvig and Lynnerup 2013, 2713) and it has been noted that bone fragments are often larger in urned burials, likely due to protection imparted by the urn from the external environment (McKinley 2016, 19). Indeed, the only urned cremation deposit seen within the prehistoric burials (Grave **10003** at Bowbridge Lane) exhibited larger fragment sizes, with the majority of bone being recovered from the 10mm and 5mm sieves (Table 6.5).

A total of 71.8% of bone fragments from the definite cremation burials and 20.6% of the bone from the funerary-related features could be identified (Table 6.6). In the cremation burials, skull fragments were most frequently seen, alongside unidentified long bone

Table 6.5: summary of cremated bone fragment size from the prehistoric cremation burials.

Field	Grave No	10mm (g)	10mm (%)	5mm (g)	5mm (%)	2mm (g)	2mm (%)	Residue	Weight (g)
145	10002	112.5	31.8	177	50	60.8	17.1	3.8	354.1
145	10006	2.5	61	0.9	22	0.7	17.1	-	4.1
145	100007	0	0	2.15	82.7	0.45	17.3	-	2.6
145	10011	2.5	22.5	4.8	43.2	3.8	34.2	-	11.1
145	10015	0	0	0.5	83.3	0.1	16.7	-	0.6
145	10016	0	0	1.5	48.4	1.6	51.6	-	3.1
145	10018	0	0	0	0	1.7	100	-	1.7
145	10022	0	0	0.9	81.8	0.2	18.2	-	1.1
145	10040	0	0	0.9	39.1	1.4	60.9	-	2.3
145	10048	0	0	0	0	0.3	100	-	0.3
145	10050	0	0	0.3	75	0.1	25	-	0.4
145	10064	0	0	0.4	80	0.1	20	-	0.5
145	10066	0	0	0.9	40.9	1.3	59.1	-	2.2
145	10079	0	0	0.1	33.3	0.2	66.7	-	0.3
145	10081	3.1	27.7	6.1	54.5	2	17.9	-	11.2
145	10087	0	0	0.5	41.7	0.7	58.3	-	1.2
145	10097	0	0	0.5	55.5	0.4	44.4	-	0.9
145	10103	0	0	0.9	100	0	0	-	0.9
145	10116	0	0	5.6	64.4	3.1	35.6	-	8.7
145	10120	0	0	0.3	100	0	0	-	0.3
145	10122	0	0	0.6	100	0	0	-	0.6
145	10126	0	0	1.1	61.1	0.7	38.9	-	1.8
145	10132	0	0	0.5	27.8	1.3	72.2	-	1.8
145	10135	0	0	0	0	0.2	100	-	0.2
259	6888	179	19.7	393.2	43.3	288.4	31.8	47.6	908.2
174	3921	0	-	2	47.6	2.2	52.4	0	4.2
258	15171	611.7	21.8	1285	45.8	858.9	30.6	52.2	2807.8

fragments (those which could not be determined to be from a particular limb). Notably, skull fragments were least common in funerary-related features, while upper limb bones were most frequently recorded following general long bone fragments.

As discussed above and further in Chapter 11, it is rare that an entire cremated skeleton is selected for burial and McKinley (1997, 131) has found that collection of elements was relatively random; this is also seen in the prehistoric burials described here (Table 6.6). Correlations between the amount of bone deposited and the age or sex of the individual have also not been observed in previous studies (*ibid.*, 139), and while age and sex data collected for the prehistoric burials was limited by preservation, similarly no patterns were observed.

Deposits of pyre debris (charcoal, burnt stones or flint, burnt clay, artefacts and cremated bone) are common near pyre sites (*ibid.*, 137), which was also the case at Bowbridge Lane, where all the funerary-related features contained at least two of the materials that are characteristic of pyre deposits. Such pyre debris deposits tend to contain a random collection of cremated bone that was not included in the true cremation burial (*ibid.*, 137), therefore this may account for the large number of funerary-related deposits of burnt bone reported for this field, rather than their being representative of deliberate and symbolic burial of cremated bone.

BAINESSE CEMETERY AND SURROUNDING AREA

The Bainesse area includes Fields 157, 159A, 163C and 163E, from which burials were recovered (see Chapter 3 and Fig. 3.1). The primary area from which burials were recovered was Field 163C (referred to as Bainesse Cemetery) and an additional burial possibly related to the cemetery was recovered in Field 163E. Three inhumations and a possible inhumation were located nearby in Field 159A, though these were not considered to represent an extension to Bainesse Cemetery. Disarticulated bone from Field 157 is also briefly described in this section. The fields are outlined below, followed by a more in-

Table 6.6: summary of identifiable elements in the prehistoric cremation burials.

Field	Burial No	Skull (g)	Skull (%)	Axial (g)	Axial (%)	UL (g)	UL (%)	LL (g)	LL (%)	UIL (g)	UIL (%)	Total ID (g)	Total ID (%)	Total UID (g)	Total UID (%)
145	10002	44	12.4	19.3	5.5	133.2	37.6	34.2	9.7	69.2	19.5	299.9	84.7	54.2	15.3
145	10006	0	0	0	0	0.5	12.2	2.5	61	0.6	14.6	3.6	87.8	0.5	12.2
145	100007	0.6	23	0.1	3.8	0	0	0.2	7.7	1.5	57.7	2.4	92.3	0.2	7.7
145	10011	0.5	4.5	1.3	11.7	0	0	0	0	7.4	66.7	9.2	82.9	1.9	17.1
145	10015	0.1	16.7	0	0	0	0	0	0	0.5	83.3	0.6	100	0	0
145	10016	0.1	3.2	0.1	3.2	0	0	0.5	16.1	1.9	61.3	2.6	83.9	0.5	16.1
145	10018	0.2	11.8	0.2	11.8	0	0	0	0	0.3	17.6	0.7	41.2	1	58.8
145	10022	0.1	9.1	0	0	0	0	0	0	1	90.9	1.1	100	0	0
145	10040	0	0	0	0	0	0	0	0	2.2	95.7	2.2	95.7	0.1	4.3
145	10048	0	0	0	0	0	0	0	0	0.1	33.3	0.1	33.3	0.2	66.7
145	10050	0.1	25	0	0	0	0	0.2	50	0	0	0.3	75	0.1	25
145	10064	0	0	0	0	0	0	0	0	0.5	100	0.5	100	0	0
145	10066	0.3	13.6	0.3	13.6	0	0	0	0	1.4	63.6	2	90.9	0.2	9.1
145	10079	0.1	33.3	0	0	0	0	0	0	0.2	66.7	0.3	100	0	0
145	10081	0	0	1.6	14.3	1.4	12.6	0.9	8	3.7	33	7.6	67.9	3.6	32.1
145	10087	0	0	0.1	8.3	0	0	0	0	0.9	75	1	83.3	0.2	16.7
145	10097	0	0	0	0	0	0	0	0	0	0	0.8	88.8	0.1	22.2
145	10103	0	0	0	0	0	0	0	0	0.5	55.6	0.5	55.6	0.4	44.4
145	10116	0.5	5.7	0	0	2.5	28.7	1.7	19.5	2.2	25.4	6.9	79.3	1.8	20.7
145	10120	0	0	0	0	0	0	0	0	0	0	0	0	0.3	100
145	10122	0	0	0.2	33.3	0	0	0	0	0.4	66.7	0.6	100	0	0
145	10126	0	0	0.1	5.6	0.7	38.9	0.3	16.7	0.4	22.2	1.51	83.3	0.3	16.7
145	10132	0.1	5.6	0.2	11.1	0	0	0	0	1	55.6	1.3	72.2	0.5	27.8
145	10135	0	0	0.1	50	0	0	0	0	0.1	50	2	100	0	0
259	6888	104.5	11.5	27.5	3	91.7	10.1	95.6	10.5	222.9	24.5	542.2	59.7	366	40.3
174	3921	0.1	2.4	0.2	4.8	1	23.8	0	-	2.7	64.3	4	95.2	0.2	4.8
258	15171	616.8	22	69.3	2.5	150.2	5.3	204.4	7.3	1039	37	2079.7	74.1	728.1	25.9

Key: UL = upper limb; LL = lower limb; UIL = unidentified long bone.

depth analysis of the human remains recovered.

BAINESSE CEMETERY

A large cemetery was identified at Bainesse (Field 163C), to the west of Roman Dere Street (Figs 3.3–3.5). It was limited by enclosure ditches to the west and south, but it is possible that it extended east beyond the area of excavation. The excavated portion contained 249 graves, of which 232 were inhumations and 17 were cremation burials. Only 121 of the inhumation burials (52.1%) contained recoverable human remains (Table 6.7), totalling evidence for 127 individuals, a result of the extremely variable preservation of bone at the site. In addition to the inhumation and cremation burials, 1,074 disarticulated human bone fragments and 464.81g of residual burnt human bone fragments were also recovered.

The primary period of cemetery usage appears to be from the 1st to the 4th century (Table 6.7). However, a small number of graves dating to the 5th and 6th centuries were located at the southern end, and one Anglo-Saxon burial (dating to cal AD904–1024, at 95.4% confidence; Grave **175**) was also identified.

FIELD 163E

Grave 13586

As previously mentioned, the single grave located in this field is possibly part of the larger Bainesse Cemetery and dates to the 1st century AD (Table 6.7). The individual was buried in a coffin in a supine and extended position and is orientated west to east. There was a minimum number of two individuals within this grave based on the presence of an additional left upper third molar in the grave fill.

FIELD 159A

Seven contexts in Field 159A were identified as containing possible human bone, including three in situ inhumations (Table 6.7) clustered roughly halfway along the south-eastern boundary of the excavation area. These dated from the 2nd to 4th century AD. All skeletons were interred in supine extended positions in a north-west to south-east orientation. A possible further grave cut was identified roughly halfway along the north-western boundary (Fig 3.199). It had been heavily disturbed by a ditch cutting through from north-east to south-west and only a very small quantity of bone was recovered. Only one of the three contexts containing disarticulated bones contained identifiable human bone (see Appendix E). Previous excavations in the 1980s had resulted in the removal of another skeleton from this location from a stone-lined grave (female aged 25–30 years; Wilson 2002a, fig 97, grave 2567).

THE MARCHING CAMP (FIELD 157)

Six disarticulated human bone fragments were recovered from the upper fill (**6627**) of enclosure ditch **6582** in Field 157. The disarticulated human bone was moderately preserved, with some loss of surface detail, and each fragment of bone was only representative of 10–30% of the original skeletal element. The MNI for Field 157 was one adult individual. Sex or stature could not be assessed, and skeletal pathology was not observed.

DISCUSSION OF THE HUMAN REMAINS FROM BAINESSE CEMETERY AND SURROUNDING AREAS

Inhumations

To summarise, a total of 127 inhumed skeletons were recovered from Field 163C, as well as one skeleton from Field 163E, which was possibly part of the large Bainesse Cemetery. A further three skeletons were excavated from Field 159A. The 131 skeletons from all three fields will be discussed here together.

Surface preservation and skeletal fragmentation were assessed where possible. However, in a number of skeletons from Field 163C, only the tooth crowns survived, which meant that it was not possible to assess preservation for those individuals.

Surface preservation was fairly poor in those skeletons with surviving bone (as opposed to only teeth) in Bainesse Cemetery (n=118), with only around a third of skeletons being moderately well preserved (35.6%), with the remainder being in either a poor condition (31.4%), or very poorly preserved (28.8%; Fig. 6.1). Only 4.2% of skeletons had good surface preservation and none were in an excellent condition.

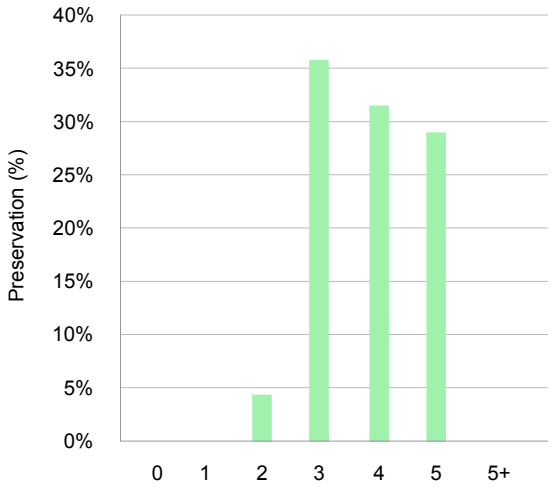


Figure 6.1: surface preservation at Bainesse Cemetery based on criteria by McKinley (2004a).

Table 6.7: summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	6	13342	Severe	4	75	36+	OMA/ MA	M?	-	DEH, calculus, caries, four abscesses	OA in right knee, DDD; DJC in scapulae, femora and right tibia; cribra orbitalia in right orbit	1: 24–176 (91.9%), 191–212 (3.5%) 2: 18–15BC (0.2%), 1–137 (95.2%)
163C	7	13328	Slight	3	80	26-35	YMA	M	164	DEH, calculus, some enamel chips	OA in left proximal femur; hypervascularity on ectocranial surface, orbital ridge and rims	1: 131–264 (72.1%), 274–330 (23.3%) 2: 86–109 (4.4%), 118–244 (91.0%)
163C	8	13281	Heavy	4	5	18+	A	U	-	DEH, calculus	-	136–262 (67.1%), 277–328 (28.3%)
163C	10	13265	Severe	4	35	18+	A	U	-	Calculus, AMTL	-	78–228 (95.4%)
163C	12	12292	-	5+	<5	18+	A	U	-	Calculus	-	-
163C	15	13168	Moderate	3	95	18-25	YA	M	-	DEH, calculus	Lamellar bone on distal right radius, visceral surface of six ribs, both tibiae and both distal fibulae; cribra orbitalia in left orbit; cranial border shift of lumbar-thoracic border with lumbarisation of T12; Schmorl's nodes on T9-T11; hypervascularity on ectocranial surface; possible hypertrophic pulmonary osteoarthropathy	238–388 (95.4%)
163C	16	13192	Moderate	3	90	46+	MA	F	161.5	DEH, calculus, caries, periodontal disease, impacted tooth	Bilateral coxa vara; osteoarthritis in the left proximal humerus, both radii, right proximal and distal femur, right patella, right proximal and distal tibia, both tali and cuboids and three ribs; DJC in both radii; OA in spine; bilateral cribra orbitalia; hypervascularity on ectocranial surface of skull	132–265 (67.9%), 272–333 (27.5%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	17	13260	Moderate	4	90	26-35	YMA	M	161.37	DEH, calculus, caries	Dense bone formation on left endocranial occipital surface; fusion of sternum to manubrium; lytic lesion on rim of left acetabulum; spondylolysis of L5; cranial shift of lumbar-thoracic border with lumbarisation of T12; Schmorl's nodes; lamellar bone on right tibia; slight torsion of right femur; hypervascularity on ectocranial surface of skull; S1 and S2 bifid; bilateral sinusitis and cribra orbitalia; possible healed fracture in distal right foot phalanx; DJC in spine, clavicles, distal humeri, radii, femora, tibiae	84–243 (95.4%)
163C	18	13175	Heavy	3	20	18+	A	U	-	Calculus, DEH, caries, periodontal disease	Osteochondritis dissecans on right distal tibia; ossification of interosseous membrane of right distal fibula; DJC left talus; cribra orbitalia in left orbit	86–234 (95.4%)
163C	19	12535	Severe	4	<5	9-11	OJ	-	-	Calculus, DEH	-	-
163C	22	13275	Moderate	2	90	26-35	YMA	M	165.9	Calculus, DEH, caries, periodontal disease, abscess (external), LI2 is not present, LC in its place	Spondylolysis of L5; cleft neural arch in C1; Schmorl's nodes on T9 and T11; hypervascularity on ectocranial surface; bilateral cribra orbitalia	31–37 (1.1%), 51–217 (94.3%)
163C	23a	13197	Moderate	4	<5	18+	A	U	-	Calculus, caries	-	79–222 (95.4%)
163C	23b	13203	Severe	4	<5	18+	A	U	-	-	-	264–275 (1.7%), 330–427 (93.7)
163C	24	13147	-	5+	<5	18-25	YA	U	-	DEH	-	-
163C	26	13157	Heavy	4	5	18+	A	M?	-	Calculus, caries	-	221–358 (93.3%), 365–380 (2.1%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	27	13216	Severe	3	<5	18+	A	U	-	-	-	244–381 (95.4%)
163C	28	13213	Severe	4	5	18+	A	U	-	-	Cribra orbitalia	133–264 (68.9%), 275–330 (26.5%)
163C	31	13029	Severe	4	<5	18+	A	U	-	-	-	-
163C	34	12845	Severe	5+	<5	18+	A	U	-	-	-	-
163C	35	12544	Severe	3	<5	18+	A	U	-	-	-	-
163C	36	12535	-	5+	<5	18+	A	U	-	-	-	-
163C	41	12737	Heavy	4	<5	18+	A	U	-	-	-	243–385 (95.4%)
163C	44	12771	Severe	3	10	18+	A	U	-	-	-	240–358 (90%), 364–381 (5.4%)
163C	46	13000	-	5+	<5	-	U	U	-	DEH	-	-
163C	50	12675	-	5+	<5	18+	A	U	-	DEH	-	-
163C	51	12592	Severe	4	<5	18+	A	U	-	DEH	Hypervascularity on ectocranial occipital fragment	-
163C	55	12728	-	5+	<5	-	U	U	-	-	-	-
163C	56	12517	Severe	5	<5	18+	A	U	-	-	-	-
163C	57	12693	Heavy	5	60	26-35	YMA	M?	-	Calculus, caries, periodontal disease	Lamellar bone on medial mid shaft of both tibiae; DJC in tibiae	262–277 (1.7%), 328–434 (82.4%), 456–469 (1.4%), 487–534 (9.9%)
163C	59	12688	Heavy	4	<5	18+	A	U	-	-	-	-
163C	60	12632	-	5+	<5	5-10	J	-	-	DEH	-	-
163C	61	12655	Severe	4	30	18+	A	U	-	Calculus	DJC in C4	73–225 (95.4%)
163C	62	12678	Heavy	4	15	18+	A	M?	-	Caries	-	133–260 (76.8%), 280–325 (18.6%)
163C	64a	12826	-	5+	<5	-	NA	-	-	-	-	-
163C	64b	13883	-	5+	<5	18+	A	U	-	-	-	-
163C	67	12661	Moderate	4	5	18+	A	U	-	Calculus, DEH	DJC left foot	86–239 (95.4%)
163C	68	12541	Severe	5+	<5	18+	A	U	-	Calculus	-	-
163C	69	12511	Moderate	5+	<5	18-25	YA	U	-	DEH, calculus	-	-
163C	71	12599	Severe	3	<5	18+	A	U	-	Calculus, DEH	-	86–110 (4.1%), 116–247 (91.3%)
163C	72	12578	Severe	5	<5	18+	A	U	-	-	-	-

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	73	12624	Heavy	3	15	26-35	YMA	F?	-	Calculus, DEH	-	-
163C	77	13027	Moderate	3	85	13-15	ADO	-	-	Calculus, DEH	Spina bifida occulta (likely complete); cranial shift of thoracic-lumbar border; cribra orbitalia; sinusitis; lamellar striae on femoral shafts	31–37 (1.1%), 51–217 (94.3%)
163C	78	12573	Severe	3	70	26-35	YMA	F?	-	Calculus, caries, DEH	Schmorl's nodes; DJC proximal femora; oblique fracture of third left metacarpal	239–389 (95.4%)
163C	81	Disart.	-	5+	<5	6-12	OJ	-	-	-	-	-
163C	82	12794	Severe	5	<5	13-17	ADO	-	-	Calculus, DEH	-	-
163C	86	12748	Moderate	3	90	26-35	YMA	M?	167.3	Calculus, caries, periodontal disease	Cribra orbitalia; lamellar bone on both anterior femora and both proximal fibulae shafts; woven bone on medial surface of left tibia; left foot exhibits trauma/inflammation on intermediate cuneiform, medial cuneiform and metatarsals; DJC in femora, tibiae, left foot	5–143 (92.6%), 153–169 (1.4%), 195–209 (1.4%)
163C	87	12731	Moderate	3	85	46+	MA	M?	-	AMTL, calculus, caries, DEH, at least five abscesses	Cribra orbitalia; exostosis/granuloma in left sinus; circular patch of vascularised bone in left nasal floor; Schmorl's nodes; DJC in spine, in right clavicle, proximal humeri, distal radii, proximal ulnae, femora, tibiae, feet, hands; fractured left tibia shaft and mid/distal fibula shaft; possible fusion of left calcaneus and talus	86–254 (93.6%), 302–315 (1.8%)
163C	88	12955	Severe	4	<5	-	NA	-	-	DEH	-	-

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	89	Disart.	-	5+	<5	4+	NA	-	-	-	-	-
163C	92a	12454	Heavy	4	20	18+	A	U	-	AMTL, calculus	New bone on superior ectocranial nuchal crest; hypervascularity on superior occipital bone	125–258 (90.8%), 285–287 (0.2%), 296–322 (4.3%),
163C	93	12877	Heavy	4	<5	18+	A	U	-	Calculus	-	-
163C	96	12481	Severe	5+	<5	18-25	YA	U	-	Calculus	-	-
163C	99	12980	Moderate	5	60	26-35	YMA	M?	-	Calculus, DEH	Cribra orbitalia; sinusitis; lamellar bone on tibiae and femora; lamellar bone on orbital rims; hypervascularity on ectocranial surface; DJC right navicular	170–194 (2.5%), 211–381 (92.9%)
163C	102	12936	Moderate	4	10	c.3 years	YJ	-	-	Calculus, Carabelli's cusp on first permanent maxillary molars bilaterally	-	86–237 (95.4%)
163C	103	Disart.	-	5+	<5	-	Non-Adult	-	-	-	-	-
163C	104	13009	Heavy	4	5	18-25	YA	U	-	Calculus	-	-
163C	106	12886	Moderate	3	<5	18+	Adult	U	-	-	-	145–151 (0.5%), 170–194 (2.7%), 211–358 (90.4%), 365–380 (1.8%)
163C	107	12895	Heavy	4	<5	18+	Adult	U	-	-	-	-
163C	108	12831	-	5+	<5	3-7	YJ	-	-	Calculus	-	-
163C	115	Disart.	-	5+	<5	18+	Adult	U	-	Calculus	-	-
163C	119	12665	Heavy	5	35	26-35	YMA	F	-	AMTL, calculus, caries, DEH, abscess	Lamellar bone on right tibia fragments, shaft of left femur	86–253 (94.0%), 303–314 (1.4%)
163C	120	12622	Moderate	5	50	26-35	YMA	M	-	Caries	Hypervascularity on ectocranial skull fragments	245–394 (95.4%)
163C	121	12696	-	5+	<5	1–6	YJ	-	-	-	-	-

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	123	12871	Slight	2	95	36-45	OMA	M	161.8	Calculus, AMTL, periodontal disease, abscess	OA on left mandibular condyle, proximal femora, distal right femur and patella; cyst on both lunate articulation with triquetral, mirrored in triquetral, developmental defect: non-osseous union of carpals or DJC; small spikey bony ridge on superior orbital rim; Schmorl's nodes; DJC in left mandible, femora, right patella and spine; bilateral cribra orbitalia; sacrum with 6 fused vertebrae, additional sacral vertebra, woven bone on maxilla	244–391 (95.4%)
163C	124	12561	Slight	2	95	14-16	AD	-	-	Calculus, DEH, periodontal disease	Woven bone on the medial side of the left mandibular ramus; lamellar/woven bone on the articular eminence of the temporal bone bilaterally; increased porosity of two left rib ends; lamellar bone on both tibial shafts; lamellar bone on femora, anterior mid-shaft of right ulna	251–403 (95.4%)
163C	125	12595	Heavy	4	15	18+	Adult	U	-	AMTL, Calculus, caries	DJC in right prox ulna; DJC at lumbar apophyseal facets and occipital condyles	90–101 (1.3%), 123–255 (92.2%), 301–316 (1.9%)
163C	130	12978	Heavy	5	15	18+	Adult	U	-	Calculus, DEH	Lamellar bone on right mandibular rim	142–158 (1.8%), 166–196 (4.2%), 210–340 (89.3%)
163C	133	12646	Slight	3	35	43192	YJ	-	-	-	Woven bone at deciduous right first and second molar sockets of maxilla, on inferior surface of right orbit; cribra orbitalia;	83–232 (95.4%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	135a	12650	Heavy	3	40	26-35	YMA	I	-	Calculus, DEH	Lamellar bone on tibial shaft fragments bilaterally; DJC in thoracic spine	-
163C	135b	12641	-	5+	<5	6+	OJ	-	-	DEH	-	263–276 (1.5%), 329–435 (81.7%), 455–470 (1.6%), 487–534 (10.5%)
163C	137	13723	Heavy	4	<5	18+	Adult	U	-	-	-	-
163C	139	12753	-	5+	<5	18+	Adult	U	-	Calculus, DEH	-	-
163C	140	12996	Heavy	3	90	26-35	YMA	M	160.7	Calculus, DEH, caries	Exostosis in left sinus; small hole in floor of right sinus – likely developmental; woven bone on distal shaft of right fibula, on distal right tibia; osteoarthritis on right femoral head; woven bone on calcanei, on visceral surface of central rib fragment; DJC in spine C1 – C3, proximal left femur, right glenoid; irregular surface palate suggests inflammation; Schmorl's nodes on 8 thoracic and 3 lumbar vertebrae; bilateral cribra orbitalia	228–388 (95.4%)
163C	142	12880	Heavy	3	5	18+	Adult	U	-	-	-	131–260 (80.4%), 280–325 (15.0%)
163C	143	12852	Heavy	3	<5	18+	Adult	U	-	-	-	244–394 (95.4%)
163C	144	12860	Heavy	4	60	26-35	YMA	F?	161.1	Calculus, periodontal disease	C2 has developmental misalignment of left inferior apophyseal facet; mild coxa vara bilaterally; possible sacroiliitis; lamellar bone on lateral left tibia; hypervascularity on occipital and parietal bones	244–391 (95.4%)
163C	149	12539	-	5+	<5	-	U	U	-	-	-	-

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	153	13201	Heavy	4	10	4-6	YJ	-	-	Calculus, DEH	-	132–260 (75.9%), 279–326 (19.5%)
163C	154	12580	Moderate	3	25	26-35	YMA	M?	-	Calculus, caries, periodontal disease, likely occupation-related wear facet	Hypervascularity on ectocranial skull vault frags; bilateral cribra orbitalia; DJC in C2	129–260 (83.0%), 280–325 (12.4%)
163C	155	12627	-	5+	<5	18+	Adult	U	-	-	-	-
163C	156	12606	Severe	4	40	26-35	YMA	M?	-	Calculus, DEH, periodontal disease	Lamellar bone on left tibial mid shaft; DJC C2, right femur, right fibula, feet	79–228 (95.4%)
163C	158	13170	Heavy	3	60	18+	Adult	F?	-	AMTL, calculus, caries	Hypervascularity on superior aspect of ectocranial surface of occipital bone; small spicule of protruding bone on endocranial surface of right inferior occipital bone; smooth but slightly pitted depression in left mandibular condyle surface; cribra orbitalia in right orbit; lamellar bone on both tibial shafts; DJC cervical spine, right TMJ, femora, tibiae	89–102 (1.5%), 123–258 (89.2%), 285–287 (0.2%), 296–322 (4.5%)
163C	160	12449	Severe	4	<5	18+	Adult	U	-	DEH	-	391–540 (95.4%)
163C	162	12782	-	5+	<5	4+	Non-Adult	-	-	-	-	-
163C	165	12722	Severe	3	5	18-25	YA	U	-	Calculus, caries, DEH	-	261–279(2.7%), 326–433 (85.1%), 460–466 (0.5%), 489–533 (7.1%)
163C	173	12800	Heavy	3	20	26-35	YMA	M?	-	Calculus, DEH	Lamellar bone on fragments of both femoral shafts; SJD C5 – C7	-

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	175	13161	Moderate	3	85	36+	OMA/MA	F?	-	AMTL, Calculus, periodontal disease	OA and DJC in cervical spine; OA in proximal ulna; DJC left mandibular condyle, proximal humeri, proximal ulnae, proximal femora; exaggerated meningeal impressions in parietal bones; sinusitis	1: 897–926 (17.4%), 942–1022 (78.0%) 2: 900–922 (3.7%), 949–1045 (88.8%), 1099–1120 (2.6%), 1144–1146 (0.2%)
163C	177	Disart.	Heavy	5+	<5	4-6	YJ	-	-	-	-	-
163C	178a	13144	Heavy	5	20	36+	OMA/MA	F?	-	AMTL, calculus, caries, DEH, periodontal disease	OA and DJC in cervical spine, eburnation on right proximal femur; lamellar striae on bilateral humeral shaft fragments, on right tibia shaft fragment and on anterior surfaces of femora	399–538 (95.4%)
163C	178b	13150	Heavy	5	<10	18+	Adult	U	-	Calculus	-	265–273 (0.8%), 331–434 (84.8%), 460–466 (0.6%), 489–533 (9.1%)
163C	181	12868	Heavy	3	5	4-5	YJ	-	-	DEH, supernumerary maxillary RC	-	130–257 (89.3%), 297–321 (6.1%)
163C	182	12719	Heavy	4	<5	18+	Adult	U	-	-	-	-
163C	183	12716	Heavy	5	<5	-	U	U	-	-	-	139–198 (9.5%), 207–343 (85.9%)
163C	184	12495	Heavy	3	5	1-6	YJ	-	-	-	-	69–221 (95.4%)
163C	185	12618	Severe	4	30	26-35	YMA	M?	-	AMTL, calculus, caries, abscess, periodontal disease	Hypervascularity on orbital ridges, lateral rims and right zygomatic bone; lamellar bone on right tibial and left and right femoral fragments; cribra orbitalia	430–493 (23.7%), 530–607 (71.7%)
163C	186	12652	Heavy	4	75	46+	MA	F	-	AMTL, calculus, DEH	OA in lumbar spine, right knee, S1, left ankle; DJC in right hand, hip, left foot; cribra orbitalia	43–155 (1.2%), 168–195 (3.4%), 210–352 (89.5%), 368–379 (1.2%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	187	12557	Heavy	3	80	18+	Adult	U	-	Calculus, caries, DEH, periodontal disease	Woven bone on left and right posterior shafts of femora; DJC in right distal humerus	429–494 (21.2%), 509–519 (1.5%), 528–630 (72.7%)
163C	193	12596	Heavy	5+	<5	-	Non-Adult	-	-	-	-	-
163C	194	12427	Heavy	3	70	3-4	YJ	-	-	Caries	Sinusitis in left sinus; cribra orbitalia in right orbit; pitting on superior intracranial surface of left greater wing of sphenoid - scurvy? pitting on the right posterior surface of maxilla and orbital aspect of right zygomatic bone	252–394 (95.4%)
163C	197a	13146	Moderate	3	95	36+	OMA/ MA	M	171.17	AMTL, calculus, caries, DEH	DISH; sacroiliitis with unilateral (right) fusion; cribra orbitalia; DJC at sternomanubrial joint, TMJ, clavicles, right and left glenoid, proximal humeri, proximal left radius, ulnae, femora, tibiae, feet; possible residual rickets; osteochondritis in distal tibia; possible crush fracture to an unsided intermediate manual phalanx, with lamellar bone on the dorsal surface of the shaft, potentially resulting in amputation of the articulating distal manual phalanx	256–298 (11.4%), 319–424 (84.0%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	197b/198	13173/13152	Moderate	3	80	26-35	YMA	M?	-	AMTL, calculus, caries, DEH, periodontal disease, abscess	Sinusitis; spondylolysis in L5; cranial border shift of lumbar thoracic border; DJC in right mandible, distal left humerus; Schmorl's nodes in thoracic and lumbar vertebrae; lamellar bone on lateral mid shafts of tibiae	142–160 (2.2%), 166–196 (4.4%), 209–358 (86.7%), 365–380 (2.2%)
163C	199	13199	Moderate	5	10	3-4	YJ	-	-	DEH on permanent dentition	-	137–356 (93.9%), 367–377 (1.5%)
163C	201	12474	Moderate	3	30	c.3	YJ	-	-	Calculus, DEH	Torsion and exaggerated bowing of right femur -rickets; exaggerated lip at lateral proximal side of right tibia – likely rickets	133–263 (70.0%), 276–329 (25.4%)
163C	202	12698	Moderate	5	30	18+	Adult	U	-	Calculus, DEH	Woven bone along posterior endocranial sagittal suture	85–234 (95.4%)
163C	205	12833	Moderate	4	<10	c.4	YJ	-	-	DEH	Cribra orbitalia in left orbit	136–263 (65.6%), 276–329 (29.8%)
163C	208	13111	Moderate	2	50	36-45	OMA	M	170.9	AMTL, calculus, DEH, periodontal disease	Sinusitis; cribra orbitalia; hypervascularity on orbital rims and cranial vault; OA at proximal left humerus; DJC in humeri, radii, right ulna, right hand, in cervical and thoracic spine; hypervascular new bone in palate; cyst in right acetabular rim	261–279 (2.7%), 326–433 (85.1%), 460–466 (0.5%), 489–533 (7.1%)
163C	209	13080	Slight	3	95	26-35	YMA	F	156.9	Calculus, caries, abscess, periodontal disease	Woven bone on anterior distal radius shaft, on vertebral ends of right ribs, on right and left tibiae shafts; DJC on all rib tubercles; manubrium fused to sternum; DJC in humeri, radii, femora, tibiae, right fibula; OA in cervical spine and right ribs; cribra orbitalia; sinusitis	405–549 (95.4%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	213	13340	Moderate	4	90	36-45	OMA	F	153.2	Calculus, caries, DEH, periodontal disease, left mandibular third molar still erupting/ impacted	Possible sacroiliitis; lamellar bone on femoral shafts; DJC in right hand, fibulae, tarsals	145–150 (0.4%), 170–194 (2.5%), 211–385 (92.5%)
163C	215	13178	-	5+	<5	4+	Non-Adult	-	-	-	-	-
163C	216	12763	Heavy	3	<5	18+	Adult	U	-	Calculus	-	421–570 (95.4%)
163C	217	430	Heavy	3	50	26-35	YMA	M	-	Calculus, periodontal disease, caries	-	426–566 (95.4%)
163C	219	13194	Severe	5	5	3-4	YJ	-	-	-	-	142–379 (95.4%)
163C	222	13344	Moderate	5	<5	1-12 mths	I	-	-	-	-	132–260 (75.9%), 279–326 (19.5%)
163C	229a	13060	Moderate	3	20	36-40 wks	F/N	-	-	-	Woven bone on endocranial parietals; focus of woven bone on ectocranial frontal bone	88–104 (2.0%), 121–258 (89.2%), 296–322 (4.2%)
163C	229b	13079	Heavy	5*	35	12-14	AD	-	-	-	-	64–219 (95.4%)
163C	231	13188	Moderate	4	50	3-4	YJ	-	-	DEH on permanent dentition	Possible rickets; woven bone on visceral surface of rib fragment	129–258 (85.6%), 284–322 (9.8%)
163C	234	13165	Moderate	3	60	46+	MA	M	162.8	-	DJC in spine; DJC in left elbow, right hand, femora, tibiae, right calcaneus, left tarsals; OA in knee and hip; Schmorl's nodes	260–280 (3.1%), 325–433 (86.2%), 490–532 (6.0%)
163C	235	13274	Moderate	3	80	3-5	YJ	-	-	-	Layer of woven bone in both orbits – possible scurvy; woven bone around right mandibular lingula; woven bone on inferior surface of pars basilaris; woven bone on left temporal; lamellar bone on ribs	87–108 (3.1%), 120–255 (89.9%), 300–313 (2.4%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
163C	237a	13076	Moderate	4	35	36+	OMA/ MA	F?	-	Calculus, DEH	DJC in right proximal tibia, left distal tibia, right tarsals	412–557 (95.4%)
163C	237b	13104	Moderate	3	95	26-35	YMA	F	155.6	Calculus, DEH	Cribra orbitalia; sinusitis; OA in first left rib head, left rib facet on T1; OA on right proximal femur; DJC in right clavicle, distal humeri, proximal ulnae, femora; lamellar bone on right tibia and right fibula	263–276 (1.5%), 329–435 (81.7%), 455–470 (1.6%), 487–534 (10.5%)
163C	238	13132	Heavy	5	10	18+	Adult	U	-	-	-	255–302 (22.1%), 315–406 (73.3%)
163C	239	13135	Moderate	3	95	36-45	OMA	F	155.2	AMTL, calculus, caries, abscess	Hypervascularity on superior occipital bone; OA on left first rib head, healed fracture mid-11th rib; DJC in spine, clavicles, humeri, radii, ulnae, hands, femora	244–391 (95.4%)
163C	240	13181	Heavy	5	5	4-5	YJ	-	-	DEH on permanent dentition	-	85–234 (95.4%)
163C	242	13095	Moderate	2	5	18+	Adult	U	-	AMTL, calculus, DEH, abscess, periodontal disease	-	-
163C	244	12310	Moderate	3	25	26-35	YMA	M?	-	Calculus, periodontal disease	Lamellar bone on articular eminence of right temporal bone, rough and pitted bone at interosseous membrane attachment site of distal right fibula – mirrored in right distal tibia; DJC in distal right tibia, distal fibulae, right tarsals	257–298 (12.2%), 320–423 (83.2%)
163C	254	12803	Heavy	5	5	18-25	YA	U	-	Calculus, DEH	-	140–384 (95.4%)
163C	255	12609	Severe	5	<5	18+	Adult	U	-	Calculus, peg tooth present	-	-
163E	13586	13592	Moderate	5	30%	26-35	YMA?	F?	-	Calculus	Cribra orbitalia; sinusitis	60–215 (95.4%)

Table 6.7 (cont.): summary of osteological results from inhumations at Bainesse Cemetery and other Bainesse burials.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD unless otherwise noted)
159A	13420	13454	Moderate	4	90%	46+	MA	M	-	Calculus, caries, periodontal disease, abscess, asymmetrical wear; DEH	Degenerative disc disease and DJC in thoracic spine; periosteal reaction and possible inclusion cyst on occipital bone; cribra orbitalia; new bone formation on L os coxa; elongated R styloid process	139–199 (9.1%), 207–344 (86.3%)
159A	13435	13437	Moderate	3	25%	36-45	OMA	M?	171.86	-	Periosteal reaction on tibiae; DJC and OA in lumbar spine	333-435 (81.6%), 454-470 (1.8%), 487-534 (12.0%)
159A	13460	13474	Slight	5	40%	26-35	YMA?	M	171.37	DEH	Cortical defect on R navicular	263–276 (1.6%), 329–430 (89.2%), 492–529 (4.6%)

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); F = Foetus (up to 40 weeks in utero); N = Neonate (Birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years).

Bone fragmentation results were consistent with those seen for surface preservation. Out of the skeletons that could be assessed (n=119), the majority were severely fragmented (63.1%), a third were moderately fragmented (31.9%) and only 5.0% were slightly fragmented (Fig. 6.2).

Figure 6.2: fragmentation of skeletons from Bainesse Cemetery.

All 131 skeletons were assessed for completeness, which demonstrated that the completeness of the Bainesse skeletons was poor. This is also reflected by the fact that of the 232 graves excavated in Field 163C only half (121; 52.1%) produced any bone or teeth at all. This is likely due to acidic soil conditions. As such, 61.8% of skeletons were 20% or less complete, with most of these being less than 5% complete (Fig. 6.3). Therefore, a large proportion of individuals were likely only represented by a small quantity of fragmented bone. Around 13.7% of the skeletons were between 81% and 100% complete and 12.2% between 21% and 40% complete. The widespread loss of bone, combined with the generally poor surface preservation and its highly fragmented nature, had a profound effect on the ability to estimate age and sex of the individuals from Bainesse and to potentially identify evidence of pathology.

Figure 6.3: skeletal completeness at Bainesse Cemetery.

In summary, the acidic soil conditions at Bainesse Cemetery meant that only half of the graves excavated contained skeletons and those that survived were generally poorly preserved and fragmented, with a large quantity of skeletal elements missing.

Demography

Of the 237 inhumation graves excavated at Bainesse Cemetery and its surrounding area, 125 produced human bone and/or teeth. Counting the articulated and disarticulated bones from the cemetery, the minimum number of individuals was 69, comprising 55 adults, five adolescents, eight juveniles and one neonate. The discussion of the demographic data below will only include the articulated sample from Bainesse.

A total of 95 articulated adult skeletons were recovered from Bainesse (age could not be determined in seven skeletons from Bainesse Cemetery). It was possible to determine sex in almost half of this group (n=42; 44.2%). The sexing criteria conflicted in one individual (1.1%), which meant that it was not possible to reliably assign a sex category to them and sex could not be determined in 54.7% of the adult population due to the absence of the necessary skeletal criteria for sex estimation to be undertaken.

Of the population for whom sex could be estimated, 64.3% were male and 35.7% were female (Fig. 6.4). This could suggest that more males were buried at Bainesse, but it must also be considered that a large number of female individuals may have been within the category of unsexed individuals, potentially skewing the figures.

Half (51.6%) of the adult population at Bainesse were classed as adults for whom age could not be determined, with more precision than 'older than 18 years of age' (18+ years). This is due to the poor preservation and completeness of the majority of skeletons from this site (Table 6.8 and Fig. 6.5). For those where a tighter age estimation could be made, 7.4% were young adults (18–25 years) and a quarter (25.3%) were young middle adults (aged 26–35 years). Old middle adults (36–45) were the least well represented, with only 5.3% of skeletons falling into this category. Finally, 10.5% of the population were mature adults (aged 46+).

When sex and age estimations are considered together, it was found that the majority of males were young middle adults, which was also true for females but to a lesser degree. There appears to be a much larger proportion of mature adult females than males. Both males and females

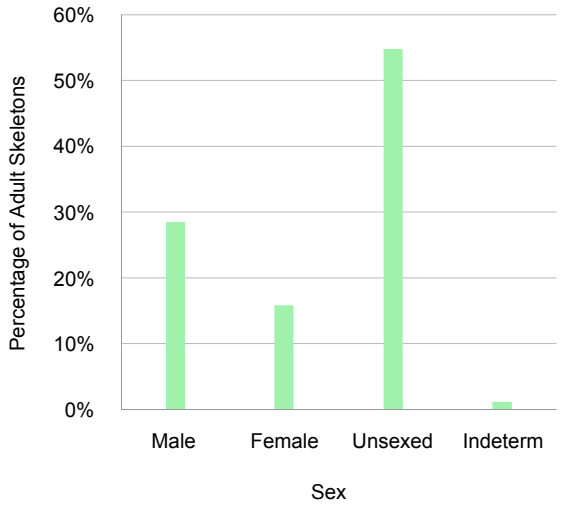


Figure 6.4: graph showing the sex distribution at Bainesse Cemetery.

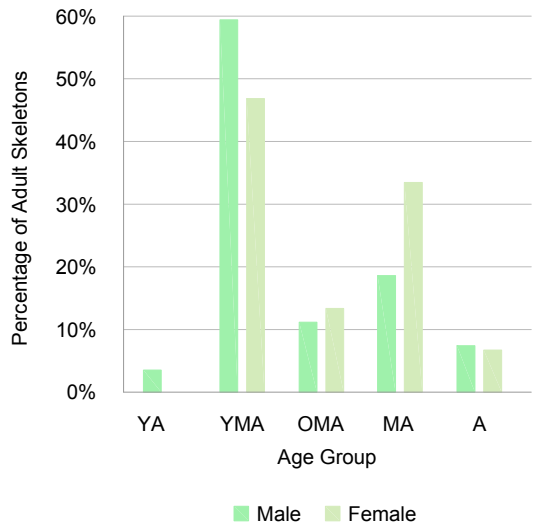


Figure 6.5: graph showing age and sex distribution of the Bainesse Cemetery adult population.

Table 6.8: age and sex distribution of the Bainesse Cemetery adult population.

Age Group	Male	%	Female	%	Unsexed	%	Indeterm	%	Total	%
YA	1	4.0%	0	0.0%	6	12.0%	0	0.0%	7	7.4%
YMA	16	59.0%	7	47.0%	0	0.0%	1	100.0%	24	25.3%
OMA	3	11.0%	2	13.0%	0	0.0%	0	0.0%	5	5.3%
MA	5	19.0%	5	33.0%	0	0.0%	0	0.0%	10	10.5%
A	2	7.0%	1	7.0%	46	89.0%	0	0.0%	49	51.6%
Total	**27**		**15**		**52**		**1**		**95**	

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

Table 6.9: age distribution of the Bainesse Cemetery non-adults.

Age	F	N	I	YJ	OJ	AD	Total
Number	0	1	1	20	3	4	29
%	0.0%	3.4%	3.4%	69.0%	10.3%	13.8%	-

Key: F = Foetus (up to 40 weeks in utero); N = Neonate (birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years).

were poorly represented in the young adult category. However, it must be remembered that age and sex could not be established for around half of the skeletons, therefore this does not represent a true demographic profile for the cemetery population.

A total of 29 non-adults were recovered from Bainesse, making up almost a quarter (22.1%) of the Bainesse Cemetery population whose age could be assessed (n=124) (Table 6.9 and Fig. 6.6). The majority (69.0%) of non-adults were young juveniles (aged 1–6 years), followed by adolescents (13–17 years), older juveniles (7–12 years) and only one neonate (3.4%).

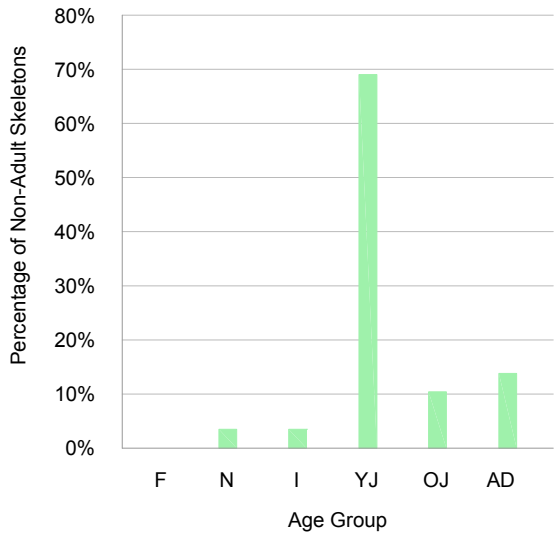


Figure 6.6: graph showing age distribution of the Bainesse Cemetery non-adults.

Two males (Skeleton 13342, Grave **6**, old middle to mature adult; and Skeleton 13328, Grave **7**, young middle adult) are of potential African ancestry. This was based on the presence of morphological ancestral traits, such as nasal guttering, a wide nasal aperture, rectangular orbits, a hyperbolic palatal shape and a low nasal root. The remaining population only showed traits that would suggest a Caucasian or possible Caucasian ancestry, except for one individual (Skeleton 12996, Grave **140**, young middle adult male) who displayed mixed African and Caucasian traits. However, for the majority of skeletons, it was not possible to observe the necessary cranial features to consider ancestral background due to poor preservation. In total, 1.98% of the Bainesse population had some African characteristics, or 4.8% of those individuals who had preserved skull elements.

Metric analyses

Stature could be estimated for 17 sexed adults; these consisted of 11 males and six females (Table 6.10). The mean height of the males was 166.3cm, which is shorter than the male mean height for the Roman period (169cm) but within the normal range of male heights seen at this time (Roberts and Cox 2003, 142). The female mean stature at Bainesse was 157.2cm, which was also slightly shorter than the female mean for the period (159cm; *ibid.*).

Leg measurements were obtained from the femora and tibiae to calculate the shape and robusticity of the femoral shaft (*platymeric* index) and the tibial shaft (*platycnemic* index; Bass 1987). The *meric* index revealed that all the femora (100%) fell into the *platymeric* range (broad and flat) (rounded; Tables 6.11 and 6.12).

The *cnemic* index revealed that the shape of the tibiae was slightly more varied; the majority (86.7%) of tibiae were *eurycnemic* (broad), with the remainder being *mesocnemic* (13.3%, average; Tables 6.13 and 6.14).

Standard measurements of the cranium and mandible were taken where preservation allowed. Poor preservation had an extreme impact on how many cranial measurements could be taken. Only Skeleton 13080 (Grave **209**, adult female) had an intact skull, allowing the calculation of the cranial index. Her cranium fell into the *mesocranic* range and was thus of average shape. Considering the small size of the sample, the results are insignificant.

Table 6.10: stature estimations for the Bainesse adult population.

Sex	Number		Mean (cm)	Range (cm)	
	(n)	(%)		Min	Max
Male	11	40.7%	166.3	160.7	171.9
Female	6	40.0%	157.2	153.2	161.5

Table 6.11: robusticity measurements for the femur.

Sex	Right			Left		
	Mean	Range		Mean	Range	
		Min	Max		Min	Max
Male	73.9	65.6	81.2	73.4	63.1	80.5
Female	75.6	75.6	75.6	72.8	72.8	72.8
Unsexed	-	-	-	-	-	-
Total	**74.2**	**65.6**	**81.2**	**73.3**	**63.1**	**80.5**

Table 6.12: meric indices for the femur.

Indices	Male				Female				Unsexed				Total			
	Right		Left		Right		Left		Right		Left		Right		Left	
Platymeric	7	100.0%	4	100.0%	1	100.0%	1	100.0%	0	0.0%	0	0.0%	8	100.0%	5	100.0%
Eurymeric	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Total	**7**		**4**		**1**		**1**		**0**		**0**		**8**		**5**	

Table 6.13: robusticity measurements for the tibia.

Sex	Right			Left		
	Mean	Range		Mean	Range	
		Min	Max		Min	Max
Male	78.4	71	92.2	79.7	75.1	90
Female	68.7	67	70.3	67.5	67.5	67.5
Unsexed	-	-	-	-	-	-
Total	**75.9**	**67**	**92.2**	**77.3**	**67.5**	**90**

Non-metric traits

The most frequent non-metric trait in the cranium was the *precondylar tubercle* (bony nodule on the base of the skull), which was seen in 41.7% of individuals where the base of the cranium was present for observation (Table 6.15). In terms of bilateral traits (traits on paired elements), the most commonly seen were *ethmoid foramen extrasutural* (small hole inside the orbit). However, only two individuals had the skeletal element present for observation, as the bone of the orbit is fragile, which has led to skewing of the prevalence for this trait. *Parietal foramen* (a small hole in the parietal bone) frequently occurred, with 38.5% of individuals expressing one on the right parietal bone and 42.3% on the left side. *Ossicles in the lambdoid suture* (small extra bones along the back of the skull) were also frequently seen, especially on the left suture where 50.0% of individuals with the area of the cranium present expressed the trait. *Mastoid foramen extrasutural* (small hole behind the ear) were also common, with 44.4% present on the right side and 44.8% present on the left side.

Particularly frequent non-metric traits in the post-cranial skeleton were *exostoses in the trochanteric fossa* (spicules of bone on the femur at the muscle attachments for *obturator externus*), with 36.4% of right femora and 26.1% of the left femora affected (Table 6.16). Also common were *lateral tibial squatting facets* (small facets in the ankle), present in 21.1% of the right and 26.7% of the left tibiae. Both traits may be activity-related rather than genetic and have been associated with habitual squatting. *Double inferior talar facets* were also common and were present in 9.5% of right and 26.1% of tali (ankle bones). *Double atlas facets* (extra facet in the neck vertebra) were present in 15.4% of right and 19.2% of left first neck vertebrae.

Pathology

All bones were examined macroscopically for evidence of pathological changes.

Congenital conditions

Heredity and environment can influence the embryological development of an individual, sometimes leading to the formation of congenital anomalies (Barnes 1994). The most severe defects are often fatal, leading to miscarriage, still birth, or death shortly after birth. Such severe defects are rarely seen in archaeological populations but less severe anomalies frequently are, and in many of these cases the individual affected would have been unaware of their expression. Nine skeletons from Bainesse displayed a variety of congenital conditions.

The human spine consists of seven cervical (neck), twelve thoracic (chest) and five lumbar (lower back) vertebrae, making a total of 24 independent segments. The sacrum (at the base of the spine, forming the back of the pelvis) is usually composed of five fused vertebral segments and the coccyx (vestigial tail) is usually made up of four fused vertebral segments. The overall total of vertebral segments is therefore 33.

Four individuals (Skeletons 13168, 13027, 12871 and 13173/13152; 3.1% of individuals) at Bainesse (three males and an adolescent) had border shifts, where vertebrae take on characteristics of adjacent vertebrae. All of these were cranial (upwards) shifts of the lower spine (thoraco-lumbar border), with the lowermost

Table 6.14: cnemic indices for the tibia.

Indices	Male				Female				Unsexed				Total			
	Right		Left		Right		Left		Right		Left		Right		Left	
Platycnemic	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Mesocnemic	0	0.0%	0	0.0%	1	50.0%	1	100.0%	0	0.0%	0	0.0%	1	10.0%	1	20.0%
Eurycnemic	8	100.0%	4	100.0%	1	50.0%	0	0.0%	0	0.0%	0	0.0%	9	90.0%	4	80.0%
Total	**8**		**4**		**2**		**1**		**0**		**0**		**10**		**5**	

thoracic vertebra taking on characteristics of the upper lumbar region of the spine (lumbarisation of the twelfth thoracic vertebra).

In the case of Skeleton 12871 (Grave **123**, old middle adult male), six sacral vertebrae were observed. It is possible that this was due to the presence of an additional vertebra or a cranial border shift between the sacrum and coccyx.

The two halves of the back of each vertebra (neural arch) usually surround and protect the spinal cord, but they can fail to unite during development leaving a cleft in the back of the vertebra. However, the spinal cord remains protected as the gap is bridged by a tough fibrous tissue and such anomalies are usually asymptomatic (Barnes 1994, 117–20). Skeleton 13275 (Grave **22**, young middle adult male) had a cleft neural arch in the first neck vertebra.

Coxa vara is a condition where the neck of the femur (thigh bone) is shortened and more horizontally orientated, so that the angle between the femoral head and the femoral shaft is below 125 degrees. The condition is not present at birth, but develops slowly due to a congenital ossification defect of the femoral neck (Salter 1999). Because of the defect, the muscles of the hip cannot hold the pelvis level during walking and the individual may have a lurching (although painless) type of limp (*ibid*.). *Coxa vara* was present in two individuals

Table 6.15: cranial non-metric traits.

Midline Traits	**Trait Present**	**Part Present**	**%**			
Ossicle at lambda	2	10	20.0%			
Ossicle at bregma	0	10	0.0%			
Metopic suture	2	33	6.1%			
Palatine torus	0	17	0.0%			
Precondylar tubercle	10	24	41.7%			
Paired Traits	**Right**			**Left**		
	Trait Present	**Part Present**	**%**	**Trait Present**	**Part Present**	**%**
Highest nuchal line	0	31	0.0%	0	31	0.0%
Lambdoid ossicle	8	20	40.0%	9	18	50.0%
Coronal ossicle	0	21	0.0%	0	21	0.0%
Ossicle at asterion	0	4	0.0%	0	5	0.0%
Ossicle at parietal notch	1	4	25.0%	1	8	12.5%
Ossicle at pterion	0	4	0.0%	1	6	16.7%
Parietal foramen	10	26	38.5%	11	26	42.3%
Auditory torus	0	34	0.0%	0	34	0.0%
Foramen of huschke	1	28	3.6%	1	30	3.3%
Mastoid for. extrasutural	12	27	44.4%	13	29	44.8%
Sutural mastoid foramen	4	12	33.3%	4	12	33.3%
Open post. condylar canal	3	13	23.1%	6	12	50.0%
Double condylar facet	2	27	7.4%	2	27	7.4%
Double ant. condylar canal	3	23	13.0%	4	25	16.0%
For. ovale incomplete	0	4	0.0%	0	4	0.0%
Open for. spinosum	1	5	20.0%	2	5	40.0%
Access. less. palat. for.	3	10	30.0%	3	12	25.0%
Maxillary torus	1	20	5.0%	0	21	0.0%
Mandibular torus	1	9	11.1%	1	31	3.2%
Zygomatic facial for. abs.	3	21	14.3%	4	22	18.2%
Access infra-orb for.	3	12	25.0%	2	13	15.4%
Access supraorbital for.	3	22	13.6%	3	24	12.5%
Bridging supraorbital notch	5	23	21.7%	7	28	25.0%
Anterior ethmoid for. ex.	2	2	100.0%	2	2	100.0%
Posterior ethmoid for. ex.	0	2	0.0%	0	2	0.0%

Table 6.16: post-cranial non-metric traits.

Midline Traits	Trait Present	Part Present	%			
Sternal foramen	0	7	0.0%			
Paired Traits	**Right**			**Left**		
	Trait Present	**Part Present**	**%**	**Trait Present**	**Part Present**	**%**
Lateral atlas bridging	0	25	0.0%	0	24	0.0%
Double atlas facet	4	26	15.4%	5	26	19.2%
Posterior atlas bridging	1	26	3.8%	1	26	3.8%
Transverse for. bipartite	1	19	5.3%	0	16	0.0%
Suprascapular foramen	0	9	0.0%	0	5	0.0%
Accessory acromial facet	0	9	0.0%	0	8	0.0%
Circumflex sulcus	1	7	14.3%	0	14	0.0%
Supracondyloid process	0	28	0.0%	0	28	0.0%
Septal aperture	2	20	10.0%	1	19	5.3%
Accessory sacral facet	0	14	0.0%	0	14	0.0%
Acetabular crease	0	20	0.0%	1	22	4.5%
Allen's fossa	0	18	0.0%	0	19	0.0%
Poirier's facet	0	18	0.0%	0	19	0.0%
Plaque	1	18	5.6%	2	19	10.5%
Hypotrochanteric fossa	2	20	10.0%	2	20	10.0%
Exostosis in troch. fossa	8	22	36.4%	6	18	33.3%
Third trochanter	1	25	4.0%	0	24	0.0%
Emarginate patella	0	13	0.0%	0	14	0.0%
Vastus notch	0	12	0.0%	1	14	7.1%
Vastus fossa	2	13	15.4%	1	14	7.1%
Med. tib. squatting facet	1	21	4.8%	1	16	6.3%
Lat. tib. squatting facet	4	19	21.1%	4	15	26.7%
Peroneal tubercle	0	18	0.0%	0	16	0.0%
Double ant. calc. facet	1	24	4.2%	3	21	14.3%
Absent ant. calc. facet	2	25	8.0%	0	20	0.0%
Double inf. talar facet	2	21	9.5%	6	23	26.1%
Med. talar facet	0	18	0.0%	0	22	0.0%
Lat. talar extension	0	19	0.0%	0	24	0.0%
Os trigonum	1	21	4.8%	4	25	16.0%

at Bainesse (1.5% of all individuals; 4.3% of individuals with femora), namely Skeletons 13192 (Grave **16**, mature adult female) and 12860 (Grave **144**, young middle adult female).

Two segments of the breast bone had fused to one another (manubrium to sternum) in Skeletons 13260 (Grave **17**, young middle adult male) and 13080 (Grave **209**, young middle adult female) due to failure of the cartilaginous manubrio-mesosternal joint to develop (Barnes 1994). According to Barnes (*ibid*.), fusion can interfere with optimum breathing and has been associated with lung infections; however, neither of the young middle adults had any signs of infection on the inner surfaces of their ribs.

In Skeleton 12871 (Grave **123**, an old middle adult male) two of the wrist bones had connected together via a cartilaginous bridge (non-osseous union of the lunate with the triquetral) in both wrists (Barnes 2012, 142). This was evident as on the opposing joint surfaces of both bones.

A variety of other very minor congenital anomalies were noted on several of the skeletons from Bainesse Cemetery, usually observed as additional lumps of dense bone, small benign cysts and cortical defects. These are noted in Table 6.7 and would not have impacted on life.

Metabolic disease

Humans require an adequate supply of nutrients during

childhood to support normal growth and development. Some conditions are associated with the lack of specific nutrients. For example, scurvy results from a diet lacking in vitamin C (found in fresh fruit and vegetables and marine fish) and rickets from a lack of vitamin D (produced by the body during exposure to sunlight). Diagnosis of nutritional deficiencies in ancient populations is complicated by the fact that the skeletal changes can be difficult to diagnose and that nutritional deficiencies tend not to occur in isolation (a diet deficient in one nutrient is very often deficient in others). In addition, many of the skeletal changes that develop in a child as a response to nutritional deficiency will be largely remodelled by the time the individual reaches adulthood (Ortner 2003; Lewis 2007).

Cribra orbitalia is a term used to describe fine pitting in the orbital roof, which develops during childhood and often recedes during adolescence or early adulthood. Until recently, iron deficiency anaemia was the accepted cause of these lesions (Stuart-Macadam 1992), but a strong case has been made by Walker *et al.* (2009) for different types of anaemia as the causative factor. These include megaloblastic anaemia, suggesting a diet deficient in vitamin B_{12} (i.e. plant-based and lacking in animal products) and/or folic acid. Such dietary deficiency could have been exacerbated through poor sanitation, leading to infection and infestation with gut parasites (*ibid.*). In areas subject to a high prevalence of malaria, haemolytic anaemia (e.g. sickle cell anaemia and thalassemia) may be important factors in the development of *cribra orbitalia* (*ibid.*). However, for areas such as northern Europe, it has been proposed that *cribra orbitalia* may be more likely related to conditions such as scurvy (vitamin C deficiency) or chronic infections (*ibid.*). The argument was countered by Oxenham and Cavill (2010), who stated that iron deficiency anaemia should still be considered as a differential diagnosis. Therefore, *cribra orbitalia* is often used as general indicator of childhood stress (Lewis 2000; Roberts and Manchester 2005).

Twenty-eight out of the 37 individuals with orbits (75.7%) from Bainesse showed evidence for *cribra orbitalia* (Table 6.17). The condition was most prevalent in non-adults (83.3% of non-adults with orbits) and, amongst adults, males were more frequently affected (78.9% of males with orbits). However, the skewed number of males within this population must be acknowledged.

Scurvy develops following a prolonged deficiency in vitamin C, which is found in fresh fruits and vegetables, as well as marine fish. Cooking food will destroy a large percentage of the vitamin C contained within it (Ortner 2003, 384). According to Aufderheide and Rodríguez-Martín (1998), it will take one to three months for the first symptoms of scurvy to appear if the consumption of vitamin C is stopped completely. Children and infants are more likely to develop scurvy than adults, and the skeletal changes are usually most severe in infants. It is likely that many past populations experienced periodic shortages of vitamin C in their diets, particularly during winter when fresh food was scarce (Brickley and Ives 2008, 50). Vitamin C deficiency was almost certainly present in Skeleton 13274 (Grave **235**, young juvenile aged 3–5 years). This individual had new bone layering in both eye orbits, the lower jaw and the base of the skull.

Skeleton 12427 (Grave **194**; young juvenile aged 3–4 years) had severe pitting on a bone within the skull (superior intracranial surface of the left greater wing of the sphenoid), the right cheek bone and upper jaw. Skeleton 13274 also had lesions that could be indicative of scurvy, with woven bone in the orbits and on other aspects of the skull. It is possible that the bony lesions seen in these individuals relate to scurvy; however, without the presence of other skeletal manifestations of scurvy, a positive diagnosis of the condition could not be made.

Lack of vitamin D leads to the development of rickets in children and osteomalacia in adults (Lewis 2007, 119). The bone bends under weight-bearing due to deficiencies in bone formation and the resultant 'softening' of the bone. As children are growing, the long bones are affected; in adults, the bones of the torso are more commonly involved (Ortner 2003, 393–401; Brickley and

Table 6.17: prevalence of cribra orbitalia in individuals with orbits.

Sex	Right Orbit			Left Orbit			Individuals		
	P	A	%	P	A	%	P	A	%
Males	13	16	81.3%	13	17	76.5%	15	19	78.9%
Females	6	8	75.0%	3	6	50.0%	6	9	66.7%
Unsexed Adults	0	0	0.0%	2	3	66.7%	2	3	66.7%
Non-Adults	4	5	80.0%	3	4	75.0%	5	6	83.3%
Total	**23**	**29**	**79.3%**	**21**	**30**	**70.0%**	**28**	**37**	**75.7%**

Key: P = pathology present; A = total observable orbits.

Ives 2008, 75–150). Although vitamin D can be obtained from food sources (primarily eggs and oily fish), most vitamin D is synthesised by the body during exposure to sunlight (Brickley and Ives 2008, 82–4). Therefore, the development of rickets and osteomalacia is usually associated with the polluted environments of post-medieval urban populations (Ortner 2003, 393; Lewis 2007, 121). However, cultural practices can also have an impact on diet and the amount of sunlight exposure. These include infant and child feeding practices, the type of clothing worn, amount of time spent outdoors, housing styles and work environments, all of which can vary according to age, sex and social status (Brickley *et al*. 2014). A diet deficient in calcium can also lead to the development of rickets (*ibid*.).

Three skeletons (2.3% of individuals) from Bainesse showed evidence for vitamin D deficiency. Skeleton 13146 (Grave **197**; old middle/mature adult male), had residual bowing deformities in the legs (likely due to deficiency experienced during childhood). Skeleton 12474 (Grave **201**, three-year-old young juvenile) had bowed thigh bones and Skeleton 13188 (Grave **231**, 3–4-year-old young juvenile) was also thought to have suffered from rickets with bowing of the right forearm, which can occur when the condition affects a child that is crawling. Overall, 18.2% of non-adults with at least one long bone shaft intact for observation possibly suffered from rickets, with bowing affecting four of 57 (7.0%) relatively complete non-adult long bones.

Trauma

Evidence for trauma in archaeological populations is restricted to that visible in the skeletal remains, unless soft tissue is preserved (Roberts and Manchester 2005, 85–6). Therefore, most of the soft-tissue injuries sustained by archaeological populations will be invisible, although occasionally soft tissue injuries can be inferred through ossification of the tissues at the site of damage, known as *myositis ossificans* (*ibid*.). Much of the evidence for trauma in archaeological populations focuses on fractures to the bones (*ibid*., 84–5), although long standing well-healed fractures may be hard to detect (Jurmain 1999, 186). At Bainesse fractures were relatively uncommon, affecting six individuals, which may in part be due to the poor preservation observed.

Skeleton 13135 (Grave **239**, old middle adult female) had a well-healed rib fracture of the eleventh rib. The prevalence for rib fractures was 4.5% of individuals with ribs. Rib fractures can occur as a result of a direct blow or through a fall (Roberts and Manchester 2005, 105; Galloway 1999a, 107). Coughing can also cause rib fractures (Roberts and Manchester 2005, 105), particularly in elderly individuals (Dandy and Edwards 2003, 161). Isolated rib fractures usually heal well without active treatment (*ibid*.).

An unsided, intermediate hand phalanx from Skeleton 13146 (Grave **197**; old middle/mature adult male) had sustained a possible crush fracture, which may have resulted in amputation with subsequent inflammation. At Lankhills, two individuals appeared to have sustained accidental or deliberate amputation of parts of the hand. One of these affected the palm bone of the little finger (distal joint of the fifth metacarpal), while the little finger (proximal phalanx) was affected in a mature adult male (Clough and Boyle 2010, 368).

The left third metacarpal (bone in the centre of the palm) of Skeleton 12573 (Grave **78**, young middle adult female) showed evidence for a well-healed fracture (affecting 7.1% of left metacarpals; see Fig. 6.7).

Figure 6.7: Bainesse Cemetery: Skeleton 12573 (Grave 78), healed fracture of the left third metacarpal at mid-shaft.

Skeleton 13260 (Grave **17**, young middle adult male) had a deformed right toe. This may have been due to a fracture, but this could not be diagnosed with certainty. Fractures of the foot phalanges are not uncommon, as these frequently occur as a result of objects being dropped on them (Dandy and Edwards 2003).

A mature adult male (Skeleton 12731, Grave **87**), showed evidence for a fracture of the left tibia (Fig. 6.8) and fibula (lower leg; Fig. 6.9), which was well-healed (affecting 2.3% of left tibiae and 2.9% of fibulae). Most injuries to the lower tibia occur when the foot is in contact with the ground and the body rotates while the foot is held in place (Galloway 1999b, 198). The fracture of the fibula was well-healed, but the fractured bone ends had overlapped. Fractures to the fibula shaft can be caused by a direct blow to the side of the leg, or through rotation injuries at the ankle (Galloway 1999b, 203; Dandy and Edwards 2003, 255–6). Such fractures would be painful to walk on during healing, as the fibula is involved in the ankle joint, although 'as long as the tibia remains intact the patient can bear weight through the limb, but will avoid the heel strike phase of gait if possible' (Dandy and Edwards 2003, 260). The joint between the left ankle (talus) and heel (calcaneus) bones had fused together

Figure 6.8: Bainesse Cemetery: Skeleton 12731 (Grave 87), fractured left tibia midshaft.

Figure 6.9: Bainesse Cemetery: Skeleton 12731 (Grave 87), fracture of left fibula at midshaft.

Figure 6.10: Bainesse Cemetery: Skeleton 12731 (Grave 87), non-osseous coalition of left calcaneus and talus.

(Fig. 6.10), likely through bone formation at ligaments as a secondary consequence following the fracture of the lower leg. The membrane between the two fractured leg bones also showed evidence for ossification, which is a common occurrence following fractures.

When the neural arch (the back portion surrounding the spinal cord) of a vertebra separates from the body (front), this is termed *'spondylolysis'*. It occurs in 4–8% of modern populations, most commonly in the fifth lumbar vertebra and can affect both halves of the arch (Aufderheide and Rodríguez-Martín 1998). The condition has been associated with hyperextension of the spine in young individuals (particularly athletes) and may result from a stress fracture or direct trauma (Dandy and Edwards 2003). However, some individuals may have an underlying genetic predisposition to developing the condition (Aufderheide and Rodríguez-Martín 1998). Although many individuals with *spondylolysis* will be unaware of their condition (Salter 1999), some will suffer lower-back pain as a result (Dandy and Edwards 2003). Pain may worsen as the individual ages and loses muscle tone (Sture 2001). Three young middle adult males (2.3% of individuals) at Bainesse had *spondylolysis* (Graves **17**, **22** and **198**), affecting 17.6% of fifth lumbar vertebrae, which is a considerably greater prevalence than the Roman mean of 1.97% (recalculated from Roberts and Cox 2003, 152).

Trauma can damage the blood supply to part of a joint surface leading to localised death of the tissue, which can then become detached from the joint surface (Roberts and Manchester 2005, 121). Such lesions are referred to as *osteochondritis dissecans* and are visible in the skeletal remains as a roughly circular, porous hollow in the surface of the joint. Skeleton 13175 (Grave **18**, unsexed adult) had *osteochondritis dissecans* in the ankle (distal joint surface of the right tibia).

Myositis ossificans traumatica is caused by the avulsion of tendons or muscle attachments (Aufderheide and Rodríguez-Martín 1998, 26); severe trauma to muscular tissue can sometimes result in the ossification of the muscle tissue itself (Ortner 2003, 133). The most commonly observed sites are on the femur at the insertion of the extensors and abductors and the humerus at the insertion of *deltoid* and *pectoralis* (major and minor) (*ibid.*). These traumatic lesions are most commonly seen in young adults (*ibid.*, 134). At Bainesse, it is likely that at least three individuals had *myositis ossificans traumatica*. Skeleton 12731 (Grave **87**) is discussed above. Skeleton 13175 (Grave **18**, unsexed adult) and Skeleton 12310 (Grave **244**, young middle adult male) had bone nodules on the lower right fibula, potentially evident of a past traumatic event causing ossification of the interosseous membrane.

Infectious disease

Infectious disease can lead to manifestation on the skeleton, but only evidence for chronic, longstanding infections can be observed in archaeological skeletal remains (Roberts and Manchester 2005, 167). Acute conditions, where the patient either recovers or dies within a short space of time, will not be seen. Initial bone formation in response to infection is disorganised (woven bone), but woven bone is remodelled and transformed into lamellar bone with time as healing takes place. Consequently, woven bone presence indicates an inflammatory process that was active at the time the person died, whilst lamellar bone is indicative of an inflammatory process that was healed or healing. A combination of both may suggest a recurring or longstanding infection (*ibid.*). Although specific diseases may cause new bone to be deposited on the skeleton, it is almost always impossible to distinguish between causative factors. Hence, evidence for infection is frequently discussed as 'non-specific'.

One of the most common non-specific infections in past and modern populations is chronic sinusitis. Skeletal changes can occur after several weeks and, if untreated, chronic sinusitis can persist for years (Lewis *et al*. 1995, 498). In modern groups, around 60% of patients with chronic sinusitis develop bone changes that are radiographically visible (Boocock *et al*. 1995, 484). Symptoms include pain in the forehead, cheeks and eyes, together with fever and a general unwell feeling (Youngson 1992, 551). The quality of life and productivity can be greatly reduced for those suffering from sinusitis. Infection of the maxillary sinuses can result from upper respiratory tract infections, pollution, smoke, dust, allergies, or a dental abscess that has penetrated the floor of the sinus cavity (Roberts and Manchester 2005, 174–6). Sinusitis was observed in thirteen adults and two non-adults with sinuses (11.5% of the individuals with sinuses; Table 6.18). The condition affected 50% of non-adults with sinuses and 44.8% adults with sinuses and was considerably more prevalent in females compared with males.

Lung infections can lead to deposits of new bone on the inner surfaces of the ribs (Roberts and Manchester 2005) and in a high percentage of individuals these lesions have been associated with tuberculosis (Santos and Roberts 2001; Mays *et al*. 2002; Matos and Santos 2006; Santos and Roberts 2006). However, diagnosis of tuberculosis cannot be made solely based on the presence of rib lesions, since other respiratory infections (e.g. chronic bronchitis and pneumonia; Roberts and Cox 2003), exposure to smoky or polluted atmospheres, and inhalation of fungal spores (Aufderheide and Rodríguez-Martín 1998) can also cause new bone formation on the ribs.

Four individuals (18.2% of individuals with ribs) at Bainesse had lesions on the surfaces of the ribs that face the lungs. Two of these, Skeletons 13168 (Grave **15**, young adult male) and 13080 (Grave **209**, young middle adult female), may have suffered from *hypertrophic pulmonary osteoarthropathy* and are discussed below. Skeletons 13188 (Grave **231**, younger juvenile) and 12996 (Grave **140**, young middle adult male) also had rib lesions (Fig. 6.11), but it could not be determined if

Figure 6.11: Bainesse Cemetery: Skeleton 12996 (Grave 140), woven bone on pleural surface of rib.

these were caused by tuberculosis or another infection of the lungs/respiratory system.

Two individuals (2.4% of individuals with skulls) at Bainesse exhibited inflammatory lesions on the skull. Skeleton 12698 (Grave **202**, unsexed adult) had inflammatory bone lesions on the internal surface of his skull and the only foetus/neonate (Skeleton 13060 in Grave **229**) had multi-layered grey woven bone on the internal surface of their skull and on the external surface of the frontal bone (Fig. 6.12). Bone formation on the internal surfaces of the skull is commonly seen in infants and young children, but less so in adults. It has been associated with inflammation or haemorrhage of the meningeal blood vessels, but the potential causes of these lesions are not clear at present. In children, possible causes identified include chronic meningitis, trauma, anaemia, neoplastic disease, metabolic diseases (scurvy and rickets), venous drainage disorders and tuberculosis (Lewis 2004; 2007). Less information is available concerning the causes of these lesions in adults.

Fifteen individuals (15.7% of adults; 25.9% of individuals with skulls) showed evidence for slight pitting on the outer skull surface. This was usually slight and occurs quite frequently in archaeological populations. Such lesions could be the result of several different scalp inflammations, including head lice infestation.

Eleven individuals (8.4% of the total skeletal population) had evidence of inflammation of their lower limbs. Skeleton 12996 (Grave **140**, young middle adult male) had active inflammation on both lower legs, while Skeletons 12693 (Grave **57**, young middle adult male), 12561 (Grave **124**, adolescent), 12606 (Grave **156**,

Table 6.18: sinusitis in adult sinuses at Bainesse.

Sex	Right Maxilla			Left Maxilla			Individuals		
	P	A	%	P	A	%	P	A	%
Males	5	13	38.5%	5	17	29.4%	6	17	35.3%
Females	3	4	75.0%	4	6	55.7%	5	7	71.4%
Unsexed	1	4	25.0%	2	4	50.0%	2	5	40.0%
Total	**9**	**21**	**42.9%**	**11**	**27**	**40.7%**	**13**	**29**	**44.8%**

Key: P = pathology present; A = total observable orbits.

Figure 6.12: Bainesse Cemetery: Skeleton 13060 (Grave 229), woven bone on endocranial surface of parietal bone.

young middle adult male), 13170 (Grave **158**, adult female) and Skeleton 13104 (Grave **237**, young middle adult female) had healing inflammation on their lower legs. An adolescent (Skeleton 13027, Grave **77**), an unsexed adult (disarticulated bone 12461 in Grave **92**) and a young middle adult female (Skeleton 12800, Grave **173**), had healing inflammation on the thigh bones, while an unsexed adult (Skeleton 12557, Grave **187**) had an active lesion in the same area. Skeleton 12748 (Grave **86**, young middle adult male) had healing inflammation affecting the thigh and shin bones, as well as his left foot.

Hypertrophic pulmonary osteoarthropathy is principally linked to cancer of the lungs, although cancer of other tissues and pleural and cardiac lesions may also initiate the condition (Ortner 2003, 354). Characteristic lesions of the condition include symmetrical new bone formation along the shafts of long bones, hands and feet (Aufderheide and Rodríguez-Martín 1998, 91). The ribs, clavicle and scapula, however, are only affected in the most advanced cases (*ibid.*). A young adult male (Skeleton 13168, Grave **15**) may have had *hypertrophic pulmonary osteoarthropathy*, with new bone formation affecting several long bones and ribs (Fig. 6.13). It is possible that Skeleton 13080 (Grave **209**, young middle adult female) also suffered from *hypertrophic pulmonary osteoarthropathy*. She had grey woven bone lesions in the same area of the right anterior distal radius as Skeleton 13168. She also had woven bone on the visceral surfaces of the seventh or eighth and the fourth or fifth ribs. In this individual, several layers of woven bone were atop of one another and it was noted on other central ribs that woven bone had likely fallen off post-mortem due to lighter areas of cortical bone. More woven bone was observed on the lateral aspect of the proximal midshaft of the right tibia. Lamellar bone was present on the entire lateral aspect and complete midshaft of the tibia. On the left tibia, woven bone was present on the anterior crest of the mid- and distal shaft. While in modern populations, lung cancer is thought to be the main cause of hypertrophic pulmonary arthropathy, in pre-antibiotic populations chronic lung disease may have contributed to a greater number of cases than today (Mays *et al.* 2002).

Figure 6.13: Bainesse Cemetery: Skeleton 13168 (Grave 15) woven and lamellar bone on both distal fibulae shafts.

Joint disease

The term joint disease encompasses many conditions with different causes, which all affect the articular joints of the skeleton. Factors influencing joint disease include physical activity, occupation and advancing age, which manifest as degenerative joint disease and osteoarthritis. Different joint diseases affect the articular joints in different ways and it is the type of lesion, together with the distribution of skeletal manifestations, which determines the diagnosis (Rogers 2000; Roberts and Manchester 2005).

Degenerative joint change (DJC) is the most commonly observed of all the joint diseases. DJC is characterised by both bone formation (osteophytes) and bone resorption (porosity) at and around the joints, which can cause discomfort and disability (Rogers 2000).

A total of 38 individuals from Bainesse exhibited degenerative changes in the bodies of the spine, with degeneration in the thoracic (central) spine being most common in males and in the cervical (neck) and lumbar region (lower back) in females. This may be related to gender differences in activities. As expected, degenerative joint disease increased with age.

In the joints of the articular facets of the spine, prevalence also increased with age, as would be anticipated. Both males and females were affected equally by degenerative joint changes, with the exception of the lower back joints in females, where the condition was more prevalent (Table 6.19 and 6.20).

Other joints also showed evidence for degenerative joint changes, with females and males affected to a similar degree in the elbow, medial clavicle, wrist, hand and hips. Males were more severely affected by degenerative changes in the shoulder, knee cap and ankle, and females in the lower jaw, breastbone, knee and hip (Table 6.21). It is possible that different forms of activities had an effect on the development of differences in degenerative changes between the sexes.

The overall prevalence for extra-spinal joint disease at Bainesse was relatively high. The hips and knees, being the weight bearing joints of the lower limb, frequently degenerate in modern populations (Roberts and Manchester 2005), with Aufderheide and Rodríguez-Martín (1998) suggesting over 50% of those over 60 years of age may suffer from degeneration of the hips. Although joint degeneration of the upper limb joints (shoulder, elbow and wrist) may be associated with advancing age, it could also develop through trauma or occupation-related stress (*ibid.*). Being one of the few joints connecting the arm to the torso, the sternoclavicular joint (joint between the breastbone and collar bone) is involved in every movement of the upper arm, and therefore is one of the most frequently used joints in the body (Yood and Goldenberg 1980, 232). As such, degeneration at these joints is not uncommon and was found to affect almost all patients over the age of 50 in an autopsy study series (*ibid.*, 235) and also commonly affected the sample population at Bainesse.

Osteoarthritis (OA) is a degenerative joint disease of synovial joints (joints that have some degree of movement) characterised by the deterioration of the joint cartilage, leading to exposure of the underlying joint surface. The resulting bone-to-bone contact can produce polishing of the bone termed 'eburnation', which is the most apparent expression of OA. Other features associated with degeneration of the joint include osteophytes (bone formation) on the surface or around the margins, porosity on the surface and the development of cysts (Rogers 2000; Roberts and Manchester 2005). However, OA was only diagnosed if eburnation was present (e.g. Fig. 6.14). OA is frequently associated with increasing age, but can be the result of mechanical stress and other factors, including lifestyle, food acquisition and preparation, social status, sex and general health and body weight (Larsen 1997; Roberts and Manchester 2005).

Figure 6.14: Bainesse Cemetery: Skeleton 12652 (Grave 186), osteoarthritis (eburnation) on superior articulating facets of sacrum.

Spinal osteoarthritis increased with age and was twice as prevalent in females compared with males (Table 6.22). As with spinal degenerative joint changes, the distribution of osteoarthritis in the spine was relatively even between different regions of the spine and between the sexes; however, the joints of the lower spine and tail bone were affected much more severely affected than any other region.

When analysing the prevalence of osteoarthritis in joints other than the spine, it was clear that the distribution was similar to that of degenerative joint changes (Table 6.23). Osteoarthritis affected both sexes, particularly in the shoulders, elbow and knee, although females had the condition more frequently in the lower jaw and hips and males in the ankle and joint of the breastbone.

Table 6.19: distribution of degenerative joint changes in the spine (vertebral bodies).

Sex	Age Group	Cervical Bodies			Thoracic Bodies			Lumbar Bodies			Sacral Bodies			Total Bodies		
		With DJC	N	%	With DJC	N	%	With DJC	With DJC	N	%	With DJC	N	With DJC	N	With DJC
Male	YA	0	13	0.0%	0	24	0.0%	0	10	0.0%	0	1	0.0%	0	48	0.0%
	YMA	16	94	17.0%	9	92	9.8%	4	48	8.3%	3	18	16.7%	32	252	12.7%
	OMA	23	28	82.1%	36	36	100.0%	1	10	10.0%	0	1	0.0%	60	75	80.0%
	MA	35	36	97.2%	54	56	96.4%	20	20	100.0%	2	2	100.0%	111	114	97.4%
	A	1	2	50.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	1	2	50.0%
	Total	**75**	**173**	**43.4%**	**99**	**208**	**47.6%**	**25**	**88**	**28.4%**	**5**	**22**	**22.7%**	**204**	**491**	**41.5%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	13	45	28.9%	22	62	35.5%	9	34	26.5%	0	4	0.0%	44	145	30.3%
	OMA	5	26	19.2%	6	48	12.5%	4	20	20.0%	0	2	0.0%	15	96	15.6%
	MA	19	20	95.0%	22	22	100.0%	13	13	100.0%	3	3	100.0%	57	58	98.3%
	A	13	13	100.0%	2	2	100.0%	-	0	0.0%	-	0	0.0%	15	15	100.0%
	Total	**50**	**104**	**48.1%**	**52**	**134**	**38.8%**	**26**	**67**	**38.8%**	**-**	**9**	**0.0%**	**131**	**314**	**41.7%**
Unsexed	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	-	0	0.0%	4	4	100.0%	-	0	0.0%	-	0	0.0%	4	4	100.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	8	19	42.1%	0	2	0.0%	3	3	100.0%	-	0	0.0%	8	24	33.3%
	Total	**8**	**19**	**42.1%**	**4**	**6**	**66.7%**	**3**	**3**	**100.0%**	**-**	**0**	**0.0%**	**12**	**28**	**42.9%**
Total	YA	0	13	0.0%	0	24	0.0%	0	10	0.0%	0	1	0.0%	0	48	0.0%
	YMA	29	139	20.9%	35	158	22.2%	13	82	15.9%	3	22	13.6%	80	401	20.0%
	OMA	28	54	51.9%	42	84	50.0%	5	30	16.7%	0	3	0.0%	75	171	43.9%
	MA	54	56	96.4%	76	78	97.4%	33	33	100.0%	5	5	100.0%	168	172	97.7%
	A	22	34	64.7%	2	4	0.0%	3	3	100.0%	-	0	0.0%	27	41	65.9%
	Total	**133**	**296**	**44.9%**	**155**	**348**	**44.5%**	**54**	**158**	**34.2%**	**8**	**31**	**25.8%**	**350**	**833**	**42.0%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years; OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; DJC = degenerative joint changes.

Table 6.20: distribution of degenerative joint changes in the spine (articular facets).

Sex	Age Group	Cervical Facets			Thoracic Facets			Lumbar Facets			Sacral Facets			Total Facets		
		With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%
Male	YA	1	29	3.4%	0	35	0.0%	0	20	0.0%	0	2	0.0%	1	86	1.2%
	YMA	13	181	7.2%	29	174	16.7%	14	79	17.7%	0	8	0.0%	56	442	12.7%
	OMA	25	55	45.5%	29	86	33.7%	5	35	14.3%	2	3	66.7%	61	179	34.1%
	MA	27	53	50.9%	38	74	51.4%	22	42	52.4%	3	4	75.0%	90	173	52.0%
	A	0	2	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	2	0.0%
	Total	66	320	20.6%	96	369	26.0%	41	176	23.3%	5	17	29.4%	208	882	23.6%
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	0	0.0%
	YMA	14	64	21.9%	35	118	29.7%	16	41	39.0%	2	3	66.7%	67	226	29.6%
	OMA	5	60	8.3%	17	72	23.6%	19	37	51.4%	1	3	33.3%	42	172	24.4%
	MA	18	43	41.9%	10	26	38.5%	9	38	23.7%	0	4	0.0%	37	111	33.3%
	A	7	23	30.4%	-	0	0.0%	-	0	0.0%	-	0	0.0%	7	23	30.4%
	Total	44	190	23.2%	62	216	28.7%	44	116	37.9%	3	10	30.0%	153	532	28.8%
Unsexed	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	-	0	0.0%	2	6	33.3%	-	0	0.0%	-	0	0.0%	2	6	33.3%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	5	43	11.6%	0	22	0.0%	5	5	100.0%	-	0	0.0%	10	70	14.3%
	Total	5	43	11.6%	2	28	7.1%	5	5	100.0%	-	0	0.0%	12	76	15.8%
Total	YA	1	29	3.4%	0	35	0.0%	0	20	0.0%	0	2	0.0%	1	86	1.2%
	YMA	27	245	11.0%	66	298	22.1%	30	120	25.0%	2	11	18.2%	125	674	18.5%
	OMA	30	115	26.1%	46	158	29.1%	24	72	33.3%	3	6	50.0%	103	351	29.3%
	MA	45	96	46.9%	48	100	48.0%	31	80	38.8%	3	8	37.5%	127	284	44.7%
	A	12	68	0.0%	0	22	0.0%	5	5	0.0%	-	0	0.0%	17	95	17.9%
	Total	115	553	20.8%	160	613	26.1%	90	297	30.3%	8	27	29.6%	373	1490	25.0%

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years; OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; DJC = degenerative joint changes.

Table 6.21: distribution of degenerative joint changes in joints other than the spine.

Joint	Bone	Male			Female			Unsexed			Total		
		With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%
Jaw	TMJ	0	32	0.0%	1	13	7.7%	3	5	60.0%	4	50	8.0%
	Mandible	3	25	12.0%	2	8	25.0%	-	0	0.0%	5	33	15.2%
Manubrio-clavicular	Manubrium	0	11	0.0%	2	6	33.3%	-	0	0.0%	2	17	11.8%
	M clavicle	2	14	14.3%	2	9	22.2%	0	1	0.0%	4	24	16.7%
Shoulder	L clavicle	3	7	42.9%	0	4	0.0%	-	0	0.0%	3	11	27.3%
	Glenoid	10	19	52.6%	3	12	25.0%	-	0	0.0%	13	31	41.9%
	P humerus	2	21	9.5%	2	16	12.5%	0	1	0.0%	4	38	10.5%
Elbow	D humerus	6	14	42.9%	7	12	58.3%	1	3	33.3%	14	29	48.3%
	P radius	4	14	28.6%	3	11	27.3%	-	0	0.0%	7	25	28.0%
	P ulna	6	16	37.5%	6	16	37.5%	1	2	50.0%	13	34	38.2%
Wrist	D radius	6	16	37.5%	5	10	50.0%	-	0	0.0%	11	26	42.3%
	D ulna	5	10	50.0%	3	9	33.3%	-	0	0.0%	8	19	42.1%
	Scaphoid	4	14	28.6%	3	11	27.3%	-	0	0.0%	7	25	28.0%
	Lunate	6	12	50.0%	3	8	37.5%	-	0	0.0%	9	20	45.0%
Hand		34	145	23.4%	28	88	31.8%	0	5	0.0%	62	238	26.1%
Fingers		44	399	11.0%	18	219	8.2%	0	14	0.0%	62	632	9.8%
Hip	Acetabulum	7	31	22.6%	5	19	26.3%	-	0	0.0%	12	50	24.0%
	P femur	5	33	15.2%	6	21	28.6%	0	4	0.0%	11	58	19.0%
Knee	D femur	9	30	30.0%	8	15	53.3%	0	5	0.0%	17	50	34.0%
	Patella	6	24	25.0%	0	10	0.0%	0	1	0.0%	6	35	17.1%
	P tibia	10	31	32.3%	5	17	29.4%	0	5	0.0%	15	53	28.3%
Ankle	D fibula	7	23	30.4%	3	19	15.8%	0	3	0.0%	10	45	22.2%
	D tibia	9	29	31.0%	3	13	23.1%	0	1	0.0%	12	43	27.9%
	Talus	5	30	16.7%	4	14	28.6%	1	8	12.5%	10	52	19.2%
Foot		25	286	8.7%	15	123	12.2%	1	43	2.3%	41	452	9.1%
Toes		9	178	5.1%	3	76	3.9%	0	9	0.0%	12	263	4.6%

Table 6.22: distribution of osteoarthritis in the spine.

Sex	Age Group	Cervical Facets			Thoracic Facets			Lumbar Facets			Sacral Facets			Total Facets		
		With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%
Male	YA	0	29	0.0%	0	35	0.0%	0	20	0.0%	0	2	0.0%	0	86	0.0%
	YMA	0	181	0.0%	9	174	5.2%	0	79	0.0%	0	8	0.0%	9	442	2.0%
	OMA	2	55	3.6%	10	86	11.6%	9	35	25.7%	0	3	0.0%	21	179	11.7%
	MA	6	53	11.3%	22	74	29.7%	2	42	4.8%	0	4	0.0%	30	173	17.3%
	A	0	2	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	2	0.0%
	Total	**8**	**320**	**2.5%**	**41**	**369**	**11.1%**	**11**	**176**	**6.3%**	**0**	**17**	**0.0%**	**60**	**882**	**6.8%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	0	0.0%
	YMA	7	64	10.9%	15	118	12.7%	2	41	4.9%	0	3	0.0%	24	226	10.6%
	OMA	0	60	0.0%	9	72	12.5%	0	37	0.0%	0	3	0.0%	9	172	5.2%
	MA	9	43	20.9%	3	26	11.5%	29	38	76.3%	4	4	100.0%	45	111	40.5%
	A	0	23	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	23	0.0%
	Total	**16**	**190**	**8.4%**	**27**	**216**	**12.5%**	**31**	**116**	**26.7%**	**4**	**10**	**40.0%**	**78**	**532**	**14.7%**
Unsexed	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	-	0	0.0%	0	6	0.0%	-	0	0.0%	-	0	0.0%	0	6	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	1	43	2.3%	0	22	0.0%	0	5	0.0%	-	0	0.0%	1	70	1.4%
	Total	**1**	**43**	**2.3%**	**0**	**28**	**0.0%**	**0**	**5**	**0.0%**	**-**	**0**	**0.0%**	**1**	**76**	**1.3%**
Total	YA	0	29	0.0%	0	35	0.0%	0	20	0.0%	0	2	0.0%	0	86	0.0%
	YMA	7	245	2.9%	24	298	8.1%	2	120	1.7%	0	11	0.0%	33	674	4.9%
	OMA	2	115	1.7%	19	158	12.0%	9	72	12.5%	0	6	0.0%	30	351	8.5%
	MA	15	96	15.6%	25	100	25.0%	31	80	38.8%	4	8	50.0%	75	284	26.4%
	A	1	68	0.0%	0	22	0.0%	0	5	0.0%	-	0	0.0%	1	95	1.1%
	Total	**25**	**553**	**4.5%**	**68**	**613**	**11.1%**	**42**	**297**	**14.1%**	**4**	**27**	**14.8%**	**139**	**1490**	**9.3%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years; OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; OA = osteoarthritis.

Schmorl's nodes are another condition that can affect the spine. They manifest as indentations in the upper and lower surfaces of the vertebral bodies caused by the pressure of ruptured discs (Aufderheide and Rodríguez-Martín 1998). This can occur in response to trauma, but vertebrae weakened by infection, osteoporosis or neoplastic disease may also be vulnerable (Roberts and Manchester 2005). Schmorl's nodes are often associated with degenerative changes to the vertebral bodies (Hilton *et al*. 1976; Aufderheide and Rodríguez-Martín 1998) and are most commonly seen in the lower thoracic vertebrae (Hilton *et al*. 1976).

Schmorl's nodes can affect any age group from adolescence and while the highest prevalence of the condition was observed in the mature adults at Bainesse, the lesions were also common in the young middle adult age group. Table 6.24 clearly demonstrates that females had considerably lower prevalence rates of Schmorl's nodes than males, both in the thoracic vertebrae (5.2% versus 28.2%), as well as in the lower spine (14.9% versus 31.8%).

Diffuse idiopathic skeletal hyperostosis (widespread skeletal growth of unknown cause), also known as DISH, is characterised by additional bone formation at the attachment sites of muscle and ligaments. It also results in bone formation with a 'candle-wax' appearance along the right side of the vertebral bodies, often leading to their fusion. DISH has been associated with excessive calorie intake, diabetes, obesity and ageing, but other theories suggest that DISH may be a response to skeletal stress, with ossified muscle and ligament attachments and extra bone formation at the spine occurring to support a large figure and a deteriorating skeleton (Arriaza 1993, 275). Greater prevalence rates of DISH have been found in monastic populations (Rogers 2000, 171), which could be due to the fact that this condition is more common in males, or older age groups, or may be related to the better nutrition of monks compared with other populations.

Skeleton 13146 (Grave **197**, old middle adult/mature adult male) had the characteristic 'candle-wax' appearance along the right side of the central spine. However, only two vertebrae were completely fused, while a further

Table 6.23: distribution of osteoarthritis in joints other than the spine.

Joint	Bone	Male			Female			Unsexed			Total		
		With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%
Jaw	TMJ	0	32	0.0%	0	13	0.0%	0	5	0.0%	0	50	0.0%
	Mandible	1	25	4.0%	1	8	12.5%	-	0	0.0%	2	33	6.1%
Manubrio-clavicular	Manubrium	2	11	18.2%	0	6	0.0%	-	0	0.0%	2	17	11.8%
	M Clavicle	2	14	14.3%	1	9	11.1%	0	1	0.0%	3	24	12.5%
Shoulder	L Clavicle	2	7	28.6%	2	4	50.0%	-	0	0.0%	4	11	36.4%
	Glenoid	0	19	0.0%	0	12	0.0%	-	0	0.0%	0	31	0.0%
	P Humerus	4	21	19.0%	5	16	31.3%	0	1	0.0%	9	38	23.7%
Elbow	D Humerus	1	14	7.1%	1	12	8.3%	0	3	0.0%	2	29	6.9%
	P Radius	0	14	0.0%	2	11	18.2%	-	0	0.0%	2	25	8.0%
	P Ulna	2	16	12.5%	3	16	18.8%	0	2	0.0%	5	34	14.7%
Wrist	D Radius	1	16	6.3%	0	10	0.0%	-	0	0.0%	1	26	3.8%
	D Ulna	0	10	0.0%	0	9	0.0%	-	0	0.0%	0	19	0.0%
	Scaphoid	0	14	0.0%	0	11	0.0%	-	0	0.0%	0	25	0.0%
	Lunate	0	12	0.0%	0	8	0.0%	-	0	0.0%	0	20	0.0%
Hand		3	145	2.1%	0	88	0.0%	0	5	0.0%	3	238	1.3%
Fingers		3	399	0.8%	0	219	0.0%	0	14	0.0%	3	632	0.5%
Hip	Acetabulum	4	31	12.9%	6	19	31.6%	-	0	0.0%	10	50	20.0%
	P Femur	8	33	24.2%	9	21	42.9%	0	4	0.0%	17	58	29.3%
Knee	D Femur	5	30	16.7%	3	15	20.0%	0	5	0.0%	8	50	16.0%
	Patella	1	24	4.2%	1	10	10.0%	0	1	0.0%	2	35	5.7%
	P Tibia	4	31	12.9%	3	17	17.6%	0	5	0.0%	7	53	13.2%
Ankle	D Fibula	0	23	0.0%	2	19	10.5%	0	3	0.0%	2	45	4.4%
	D Tibia	2	29	6.9%	2	13	15.4%	0	1	0.0%	4	43	9.3%
	Talus	2	30	6.7%	3	14	21.4%	0	8	0.0%	5	52	9.6%
Foot		6	286	2.1%	5	123	4.1%	2	43	4.7%	13	452	2.9%
Toes		0	178	0.0%	0	76	0.0%	0	9	0.0%	0	263	0.0%

Table 6.24: Schmorl's nodes at Bainesse.

Sex	Age Group	Cervical Bodies			Thoracic Bodies			Lumbar Bodies			Sacral Bodies			Total Bodies		
		With SN	N	%	With SN	N	%	With SN	N	%	With SN	N	%	With SN	N	%
Male	YA	0	13	0.0%	4	24	16.7%	0	10	0.0%	0	1	0.0%	4	48	8.3%
	YMA	0	94	0.0%	36	92	39.1%	18	48	37.5%	0	18	0.0%	54	252	21.4%
	OMA	0	28	0.0%	3	36	8.3%	0	10	0.0%	0	1	0.0%	3	75	4.0%
	MA	0	36	0.0%	17	56	30.4%	10	20	50.0%	0	2	0.0%	27	114	23.7%
	A	0	2	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	2	0.0%
	Total	**0**	**173**	**0.0%**	**60**	**208**	**28.8%**	**28**	**88**	**31.8%**	**0**	**22**	**0.0%**	**88**	**491**	**17.9%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	0	45	0.0%	0	62	0.0%	3	34	8.8%	0	4	0.0%	3	145	2.1%
	OMA	0	26	0.0%	0	48	0.0%	0	20	0.0%	0	2	0.0%	0	96	0.0%
	MA	0	20	0.0%	7	22	31.8%	7	13	53.8%	1	3	33.3%	15	58	25.9%
	A	0	13	0.0%	0	2	0.0%	-	0	0.0%	-	0	0.0%	0	15	0.0%
	Total	**0**	**104**	**0.0%**	**7**	**134**	**5.2%**	**10**	**67**	**14.9%**	**1**	**9**	**0.0%**	**18**	**314**	**5.7%**
Unsexed	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	-	0	0.0%	0	4	0.0%	-	0	0.0%	-	0	0.0%	0	4	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	0	19	0.0%	0	2	0.0%	0	3	0.0%	-	0	0.0%	0	24	0.0%
	Total	**0**	**19**	**0.0%**	**0**	**6**	**0.0%**	**0**	**3**	**0.0%**	**-**	**0**	**0.0%**	**0**	**28**	**0.0%**
Total	YA	0	13	0.0%	4	24	16.7%	0	10	0.0%	0	1	0.0%	4	48	8.3%
	YMA	0	139	0.0%	36	158	22.8%	21	82	25.6%	0	22	0.0%	57	401	14.2%
	OMA	0	54	0.0%	3	84	3.6%	0	30	0.0%	0	3	0.0%	3	171	1.8%
	MA	0	56	0.0%	24	78	30.8%	17	33	51.5%	1	5	20.0%	42	172	24.4%
	A	0	34	0.0%	0	4	0.0%	0	3	0.0%	-	0	0.0%	0	41	0.0%
	Total	**0**	**296**	**0.0%**	**67**	**348**	**19.3%**	**38**	**158**	**24.1%**	**1**	**31**	**3.2%**	**106**	**833**	**12.7%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years; OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; SN = Schmorl's nodes.

two vertebrae were in the process of fusing when this individual died. Roberts and Manchester (2005, 160) recommend that 'fusion of four contiguous vertebrae is necessary for a diagnosis'. As such, the diagnosis has to remain tentative. Symptoms of DISH largely consist of back stiffness; more severe effects, such as compression of the spinal cord or paraplegia are only found in few extreme cases (Rogers and Waldron 2001, 361). This individual also suffered from kyphosis (forward curvature of the spine) due to the fusion and degeneration of the spine. However, this was slight and likely did not affect the individual to a more noticeable extent than the fusion of the spine. Additionally, this individual's sacroiliac joint was fused on the right side and it is possible that this was a secondary complication of the disease. The individual also had widespread ossification of ligamentous attachements and etheseal changes, which fit the disease pattern (Fig. 6.15).

Figure 6.15: Bainesse Cemetery: patella of Skeleton 13146 (Grave 197) with entheseal changes at the rectus femoris attachment.

Neoplastic conditions

The term 'neoplastic' literally translates as 'new growth' and it refers to the uncontrolled growth of any tissue, including bone (Roberts and Manchester 2005, 252). Benign lesions are contained within a local area, have discrete boundaries and are usually slow-growing. In contrast, malignant neoplasms grow and spread at an uncontrolled rate and frequently distribute themselves throughout the body (Roberts and Manchester 2005). Neoplastic conditions are rare in archaeological populations.

Figure 6.16: Bainesse Cemetery: Skeleton 12731 (Grave 87), bony growth protruding from floor of left sinus (vertical and oblique view).

Two individuals at Bainesse had evidence of bony growths in their maxillary sinuses (affecting 4.8% of preserved sinuses). In both individuals, these smooth growths of dense bone protruded from the floor of the left sinus into the cavity itself. In Skeleton 12731 (Grave **87**, mature adult male) the growth was located mid-sinus and had an irregular but smooth topography, with a rounded small nodule extending upwards (Fig. 6.16). It appeared to be hollow and was associated with an underlying dental abscess. Skeleton 12731 had very poor dental health with several abscesses in the left upper jaw, which

Figure 6.17: Bainesse Cemetery: Skeleton 12996 (Grave 140), bony growth protruding from floor of left sinus.

may have caused the growth to cordon off soft tissue from reaching the sinus. If this was the case, then the condition was likely a granuloma (a mass of granulation tissue, typically produced in response to infection, inflammation, or the presence of a foreign substance) related to the abscess below, which was connected to the inside of the growth. However, a differential diagnosis as an exostotic osteomyelitic (infection inside the bone) lesion cannot be ruled out completely in this case, as these have also been associated with poor dental health (Kendall *et al.* 2015).

In Skeleton 12996 (Grave **140**, young middle adult male) the growth was also smooth, but slightly larger than that in Skeleton 12731. It was located directly proximally to the left upper first molar, which had been lost post-mortem (Fig. 6.17). It is likely that this was a granuloma, as in Skeleton 12731, but a differential diagnosis as an exostotic osteomyelitic reaction to bacteria cannot be ruled out.

Figure 6.18: Bainesse Cemetery: Skeleton 13146 (Grave 197), fusion of right pelvis and sacrum.

Miscellaneous pathology

Two individuals at Bainesse had a one-sided fusion of the sacro-iliac joint (joint between the hip and tail bone). The left pelvis of Skeleton 12871 (Grave **123**, old middle adult male) had fused to the sacrum, while the right pelvis was fused to the sacrum in Skeleton 13146 (Grave **197**, old middle adult/mature adult male; see Fig. 6.18). This individual probably had DISH and it is possible that the fusion was associated with this condition. Barnes (2012) refers to a condition known as 'sacroiliac coalition', where cartilaginous plates between the two bones ossify as the elements develop. However, she also states that 'there is no indication of a joint having ever been present, as the union is smooth and uninterrupted' and suggests other reasons for the fusion of the joint could be related to degenerative joint changes or may be due to trauma (*ibid*., 167). However, considering the age of the two individuals, degenerative changes are the likely cause of the fusion in both individuals, although in Skeleton 13146, it is also possible that the fusion was associated with the pathological pattern of DISH, which this individual suffered from.

Sacroiliitis describes a condition where one or both of the sacro-iliac joints between the hip and tail bone are affected by inflammation. If this area is inflamed, pain may be present in the lower back and buttocks. *Sacroiliitis* is associated with inflammatory joint diseases (seronegative spondyloarthropathies) but can also be a complication of brucellosis (Lethinen *et al*. 2009; Darton *et al*. 2013). Two individuals are considered to have suffered from *sacroiliitis* at Bainesse. In Skeleton 12860 (Grave **144**, young middle adult female), the affected joints (auricular surfaces) were highly irregular and affected by severe porosity. In Skeleton 13340 (Grave **213**, old middle adult female), the appearance of the joints was similar, but additional ossifications of the ligament attachment sites were observed.

Inflammation of the bursa (a fluid-filled sac that cushions bones and tendons) that overlies the ischial tuberosity ('sitting bones') of the hips is often observed in individuals who sit for long periods of time on hard surfaces but can also be caused through falling onto the backside (Cho *et al*. 2004). Symptoms include chronic buttock pain that may radiate down the back of the thigh, which can be disabling and cause problems with walking (*ibid*.). Gowland (2016a) has noted an association of inflammation of the ischium with pressure sores (decubitus ulcers), which tend to occur in immobile individuals, including the elderly. A mature adult female (Skeleton 12652, Grave **186**) had unusually irregular dense bone nodules occurring with porosity on the ischial tuberosity (part of the pelvis one sits on), which may be indicative of *ischial bursitis*. It may suggest that this mature female was largely immobile and/or spent a lot of time seated.

Dental health

Teeth tend to preserve well in the ground and provide vital information on diet, health and activity. A total of 78 adults from Bainesse had 367 permanent teeth and 256 tooth positions preserved (Table 6.25). Notably, almost half of these (48.7%) belonged to unsexed adults, which had a detrimental impact on the ability to interpret dental disease by sex. A third of the adult dentitions (32.1%) belonged to males, while a fifth belonged to females (18.2%). A third of adult teeth belonged to young middle adults (30.8%) and nearly half were from adults aged eighteen years or older (43.6%), which also hampered age-related analysis of dental pathology trends.

Fifteen younger juveniles had deciduous dentitions (milk teeth) and eleven of these also had permanent teeth (mixed dentition). Three older juveniles also had deciduous as well as permanent teeth present for analysis. The four adolescents with teeth only had permanent teeth. Of the unspecific non-adult group (those for which age could not be determined more specifically than less than 17 years of age due to the fragmented nature of the teeth), three had deciduous teeth and five had permanent teeth. A total of 112 tooth positions and 506 teeth (203 deciduous and 303 permanent teeth) were recorded for the non-adult group.

Table 6.25: age and sex distribution of adults with teeth from Bainesse.

Age Group	Male		Female		Unsexed		Total	
	N	%	N	%	N	%	N	%
YA	1	4.0%	0	0.0%	6	15.8%	7	9.0%
YMA	16	64.0%	7	46.7%	1	2.6%	24	30.8%
OMA	2	8.0%	2	13.3%	0	0.0%	4	5.1%
MA	4	16.0%	5	33.3%	0	0.0%	9	11.5%
A	2	8.0%	1	6.7%	31	81.6%	34	43.6%
Total	**25**		**15**		**38**		**78**	

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number.

Dental plaque concretions (calculus) are commonly observed in archaeological populations whose dental hygiene was not as rigorous as it is today. Mineralisation of plaque can also be common when the diet is high in protein (Roberts and Manchester 2005; Hillson 1996).

Almost half the permanent teeth (43.9%) from the articulated skeletons were affected by calculus, of which more female teeth (59.9%) were affected than male teeth (47.2%). Overall, calculus deposits increased with age, although a slight decrease of the deposits was noted in the mature adult age group (Table 6.26). Unexpectedly, all young adult male teeth showed evidence for dental plaque concretions, although the number of male young adult teeth was small.

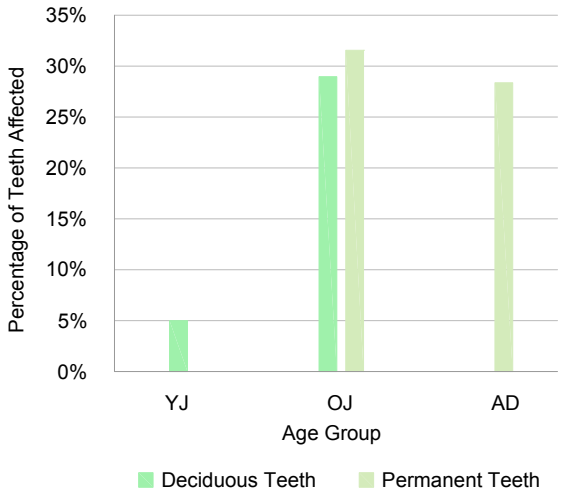


Figure 6.19: age distribution of non-adult teeth with calculus at Bainesse.

Non-adults were also affected by dental plaque concretions; deposits were observed on eleven of the 203 deciduous teeth (5.4%) and 43 of 303 permanent teeth (14.2%). Figure 6.19 highlights the relationship between age and dental plaque concretions; while the younger juveniles had no permanent teeth with calculus deposits (probably because the permanent dentition were still erupting), a small percentage of deciduous teeth were affected (5%). The older juveniles had more frequent dental plaque concretions on their deciduous teeth (29%) and also had a higher number of permanent teeth (31.6%) with calculus. Nearly a third (28.4%) of adolescent teeth had calculus deposits.

Dental plaque concretions can aggravate the gums, leading to inflammation of the soft tissues (gingivitis). In turn, gingivitis can progress to involve the bone itself, leading to resorption of the bone supporting the tooth and the loss of the periodontal ligament that helps to anchor the tooth into the socket (Roberts and Manchester 2005, 73). It can be difficult to differentiate between periodontal disease and continuous eruption (whereby the teeth maintain occlusion despite heavy wear) in skeletal remains, since both result in exposure of the tooth roots (Roberts and Manchester 2005, 74).

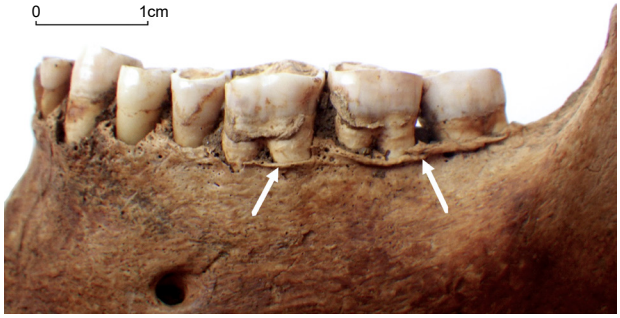


Figure 6.20: Bainesse Cemetery: Skeleton 13111 (Grave 208), periodontal disease on left mandible

Periodontal disease (see Fig. 6.20) was observed in thirteen of fifteen males (86.7%), in all six females (100%) and three of four unsexed or indeterminate individuals (75%). In total, 22 of 25 individuals whose maxillae and/or mandible could be inspected and who did not have ante-mortem tooth loss present, showed signs of periodontal disease (88.0%). The majority of these individuals were old middle adults or mature adults.

Dental caries (tooth decay) refers to the dissolving of areas of the teeth by acid formed by bacteria during the process of breaking down sugars in the diet (Zero 1999). Simple sugars can be found naturally in fruits,

Table 6.26: age and sex distribution of adult teeth with calculus at Bainesse.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	Calc	Total	%	Calc	Total	%	Calc	Total	%	Calc	Total	%
YA	32	32	100.0%	0	0	0.0%	14	72	19.4%	46	104	44.2%
YMA	179	362	49.4%	93	170	54.7%	5	11	45.5%	277	543	51.0%
OMA	25	58	43.1%	35	44	79.5%	0	0	0.0%	60	102	58.8%
MA	33	77	42.9%	37	57	64.9%	0	0	0.0%	70	134	52.2%
A	3	47	6.4%	2	8	25.0%	67	258	26.0%	72	313	23.0%
Total	**272**	**576**	**47.2%**	**167**	**279**	**59.9%**	**86**	**341**	**25.2%**	**525**	**1196**	**43.9%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); Calc = calculus.

vegetables, dried fruits and honey, as well as processed, refined sugar. Carbohydrates can also cause cavities.

A total of 8.4% of adult teeth from Bainesse were affected by cavities, which affected female teeth (12.2%) to a slightly greater extent than male teeth (9.9%). Female cavity prevalence increased marginally with age, while the male prevalence rose considerably from the young to the mature adult age groups (Table 6.27 and Fig. 6.21). The frequency of caries increases with age because the dental enamel does not repair itself; therefore, lesions will accumulate over the lifespan. Only one non-adult, a younger juvenile (Skeleton 12427, Grave **194**), had caries in one of their permanent teeth.

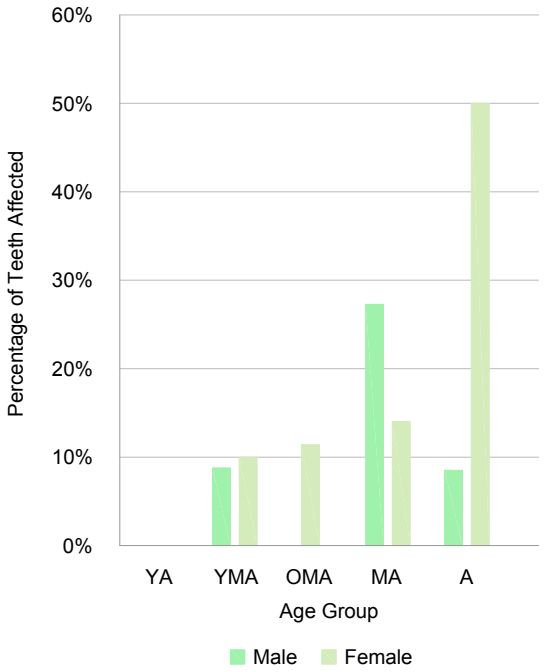


Figure 6.21: age and sex distribution of adult teeth with cavities at Bainesse.

Dental abscesses occur when bacteria enter the inside of a tooth, causing inflammation and a build-up of pus at the tip of the tooth root. Eventually, a hole forms in the surrounding bone, allowing the pus to drain out and relieve the pressure. Abscesses can form as a result of dental cavities, heavy wear of the teeth, damage to the teeth, or periodontal disease (Roberts and Manchester 2005).

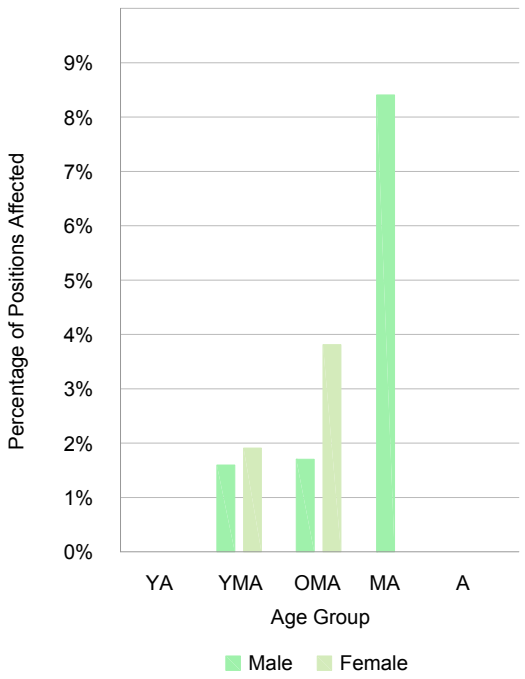


Figure 6.22: age and sex distribution of adult tooth positions with abscesses at Bainesse.

Only permanent tooth positions (2.1%) were affected by abscesses. Abscess prevalence clearly increased with age, and males were affected slightly more (2.7%) than females (1.3%; Table 6.28 and Fig. 6.22). This was unexpected, considering that females had a slightly higher prevalence of caries.

One old middle adult female (Skeleton 13135, Grave **239**) suffered from advanced ante-mortem tooth loss (possibly abscess-related) and had an abscess at the socket of the left second mandibular molar. The abscess had led to the formation of a perfectly circular shaped hole that formed a channel from the apical area of the socket through to the medial side of the left mandible (Fig. 6.23).

Skeletons 12871 (Grave **123**, old middle adult male), 12561 (Grave **124**, adolescent) and 12646 (Grave **133**, young juvenile) showed evidence for periosteal reactions

Table 6.27: age and sex distribution of adult teeth with cavities at Bainesse.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	Caries	Total	%	Caries	Total	%	Caries	Total	%	Caries	Total	%
YA	0	32	0.0%	0	0	0.0%	1	72	1.4%	1	104	1.0%
YMA	32	362	8.8%	17	170	10.0%	0	11	0.0%	49	543	9.0%
OMA	0	58	0.0%	5	44	11.4%	0	0	0.0%	5	102	4.9%
MA	21	77	27.3%	8	57	14.0%	0	0	0.0%	29	134	21.6%
A	4	47	8.5%	4	8	50.0%	8	258	3.1%	16	313	5.1%
Total	**57**	**576**	**9.9%**	**34**	**279**	**12.2%**	**9**	**341**	**2.6%**	**100**	**1196**	**8.4%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

Figure 6.23 (left): Bainesse Cemetery: Skeleton 13135 (Grave 239), dental abscess beneath the left second mandibular molar.

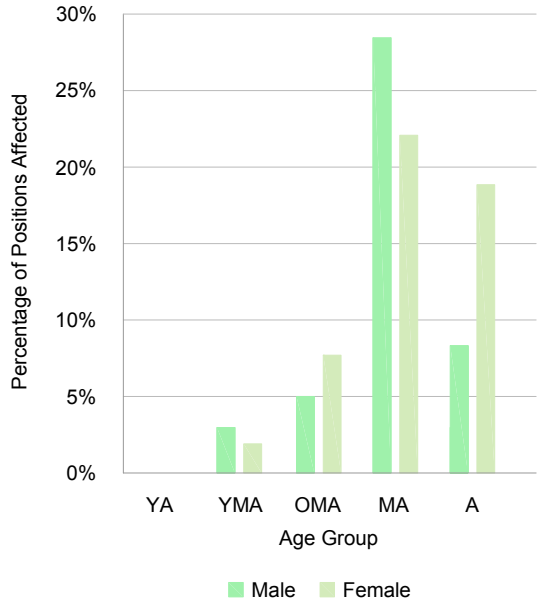


Figure 6.24: age and sex distribution of adult tooth positions with ante-mortem tooth loss at Bainesse.

(inflammatory lesions) on the upper and lower jaws, which were likely associated with dental health.

Ante-mortem tooth loss (AMTL), or the loss of teeth during life, can occur as a result of a variety of factors, including cavities, heavy tooth wear or periodontal disease. Once the tooth has been lost, the empty socket is filled in with bone.

Ante-mortem tooth loss affected 9.1% of adult tooth positions, and the condition increased with age. Male tooth positions were slightly less frequently affected (8.0%) than female tooth positions (10.8%; Table 6.29 and Fig. 6.24). This reflected the trend seen with the prevalence of carious lesions described above and supports the frequently seen association of cavity formation and ante-mortem tooth loss (Roberts and Manchester 2005, 74).

Dental enamel hypoplasia (DEH) refers to the presence of lines, grooves or pits on the surface of the tooth crown, which occur as a result of defective formation of tooth enamel during growth (Hillson 1996). Essentially, they represent a period when the crown development is halted and they are caused by periods of severe stress, such as episodes of malnutrition or disease, during the first seven years of childhood. Involvement of the deciduous (milk) teeth can indicate stress before birth (Lewis 2007).

DEH was identified on 17.1% of adult teeth and were twice as likely to affect males (20.1% of teeth) than females (10.8% of teeth) (Table 6.30 and Fig. 6.25). It is notable that the majority of teeth with DEH from males

Table 6.28: age and sex distribution of adult tooth positions with abscesses.

Age Group	Male Tooth Positions			Female Tooth Positions			Unsexed Tooth Positions			Total Tooth Positions		
	Abscess	Total	%	Abscess	Total	%	Abscess	Total	%	Abscess	Total	%
YA	0	32	0.0%	0	0	0.0%	0	6	0.0%	0	38	0.0%
YMA	5	313	1.6%	2	108	1.9%	0	12	0.0%	7	433	1.6%
OMA	1	60	1.7%	1	26	3.8%	0	0	0.0%	2	86	2.3%
MA	8	95	8.4%	0	82	0.0%	0	0	0.0%	8	177	4.5%
A	0	24	0.0%	0	16	0.0%	1	92	1.1%	1	132	0.8%
Total	**14**	**524**	**2.7%**	**3**	**232**	**1.3%**	**1**	**110**	**0.9%**	**18**	**866**	**2.1%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number.

Table 6.29: age and sex distribution of adult tooth positions with ante-mortem tooth loss.

Age Group	Male Tooth Positions			Female Tooth Positions			Unsexed Tooth Positions			Total Tooth Positions		
	AMTL	Total	%	AMTL	Total	%	AMTL	Total	%	AMTL	Total	%
YA	0	32	0.0%	0	0	0.0%	0	6	0.0%	0	38	0.0%
YMA	10	313	3.2%	2	108	1.9%	0	12	0.0%	12	433	2.8%
OMA	3	60	5.0%	2	26	7.7%	0	0	0.0%	5	86	5.8%
MA	27	95	28.4%	18	82	22.0%	0	0	0.0%	45	177	25.4%
A	2	24	8.3%	3	16	18.8%	12	92	13.0%	17	132	12.9%
Total	**42**	**524**	**8.0%**	**25**	**232**	**10.8%**	**12**	**110**	**10.9%**	**79**	**866**	**9.1%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); AMTL = ante-mortem tooth loss.

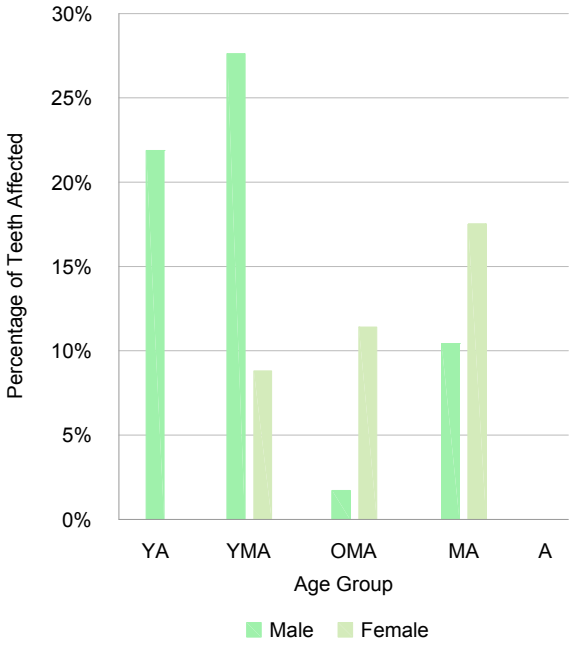


Figure 6.25: age and sex distribution of adult teeth with DEH at Bainesse.

were seen in young or young middle adults (92.3%), while the prevalence of lesions in females increased with age. The presence of DEH has been associated with a lower life-expectancy in adults, perhaps suggesting that these individuals continued to experience stress beyond childhood (Lewis 2007). This theory is consistent with the peak incidence rate in male young and young middle adults at Bainesse but does not correspond with the high prevalence of DEH in mature adult females.

Table 6.31: distribution of non-adult teeth with DEH.

Age Group	Deciduous and Permanent		
	DEH	Total	%
YJ	47	335	14.0%
OJ	9	45	20.0%
AD	33	109	30.3%
Non-Adult	4	17	23.5%
Total	**93**	**506**	**18.4%**

Key: YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years); DEH = dental enamel hypoplasia.

It was noted that a large number of individuals had developed enamel hypoplasia on their molars, especially the first molars. This is unusual as the lesions usually affect the anterior teeth.

DEH was present in the dentition of thirteen non-adults (39%), with a total of 18.4% of non-adult teeth affected. Most of the non-adult DEH was found in the permanent dentition, which is the norm. The prevalence of DEH rose with age as more permanent teeth are present in older children (Table 6.31 and Figure 6.26). There were a few notable exceptions, however. For example, Skeleton 12868 (Grave **181**, four- to five-year-old juvenile) had grooves in their deciduous dentition, indicative of stress *in utero* (Fig. 6.27).

Table 6.30: age and sex distribution of adult teeth with DEH.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	DEH	Total	%	DEH	Total	%	DEH	Total	%	DEH	Total	%
YA	7	32	21.9%	0	0	0.0%	19	72	26.4%	26	104	25.0%
YMA	100	362	27.6%	15	170	8.8%	8	11	72.7%	123	543	22.7%
OMA	1	58	1.7%	5	44	11.4%	0	0	0.0%	6	102	5.9%
MA	8	77	10.4%	10	57	17.5%	0	0	0.0%	18	134	13.4%
A	0	47	0.0%	0	8	0.0%	32	258	12.4%	32	313	10.2%
Total	**116**	**576**	**20.1%**	**30**	**279**	**10.8%**	**59**	**341**	**17.3%**	**205**	**1196**	**17.1%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); DEH - dental enamel hypoplasia.

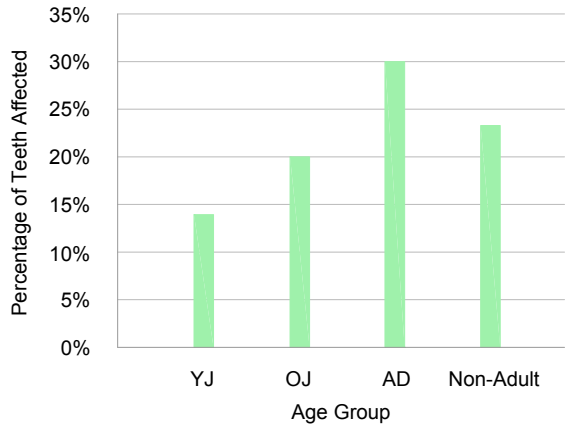


Figure 6.26: distribution of non-adult teeth with DEH at Bainesse.

Figure 6.27: Bainesse Cemetery: Skeleton 12868 (Grave 181), dental enamel hypoplasia on deciduous dentition.

Teeth can be absent from the erupted dentition due to a failure of the tooth to develop (congenital absence) or because the tooth develops but fails to erupt (impaction). Full impaction means the tooth remains completely within the jaw, but teeth that erupt at an angle can be considered partially impacted. In well preserved archaeological skeletal remains, it is usually impossible to tell without a radiograph whether a tooth has not erupted because it is impacted or because it is congenitally absent. Occasionally, it is possible to observe that a tooth is impacted if post-mortem damage exposes the imbedded tooth. Since systematic radiographs were not taken of the jaws from Bainesse, teeth that were absent from the erupted dentition were recorded as 'not present/ unerupted' unless there was definite evidence for impaction.

At Bainesse, fifteen adults (30.6%) who had tooth positions present for observation had teeth that were not present/unerupted. This group included five males and six females, as well as four unsexed individuals. A total of 21 teeth were not present/unerupted (1.8% of 1196 observable tooth positions).

The tooth most commonly not present/unerupted was the lower right third molar (wisdom tooth). The other

Figure 6.28: Bainesse Cemetery: Skeleton 12936 (Grave 102), multicusped maxillary first molars.

wisdom teeth were also commonly not present. The high frequency of wisdom teeth that were not present/ unerupted was consistent with these teeth being the most likely to be impacted or congenitally absent, although it is the lower third molars that are more prone to impaction than the upper teeth (Hillson 1996, 113–4). The only other tooth that was unerupted/not present was an upper left lateral incisor (Skeleton 13275, Grave **22**). Hillson (1996, 114) has noted that congenital absence of teeth may be inherited, and that absence of teeth may be associated with other dental anomalies; however, none were observed amongst the individuals with absent/ unerupted upper molars.

Slightly abnormal molars were recorded in two individuals, which had additional cusps. Skeleton 12936 (Grave **102**, younger juvenile) had two first molars with additional cusps (Fig. 6.28), while Skeleton 13080 (Grave **209**, young middle adult female) had upper right third molars with extra cusps.

A young middle adult male (Skeleton 12580, Grave **154**) had a wear facet likely related to habitual use. The left mandibular second premolar and first molar were affected by severe oblique wear, almost removing the buccal (outer) part of the tooth crown surfaces. It was also noted that the enamel on the affected teeth was frequently chipped, perhaps suggesting activity-related trauma (Fig. 6.29).

Figure 6.29: Bainesse Cemetery: Skeleton 12580 (Grave 154), activity-related wear of the left mandibular first molar and second premolar.

Disarticulated human remains from Bainesse Cemetery

A total of 43 contexts contained 1,074 disarticulated human bone fragments. A further 45 contexts contained a total of 464.81g of disarticulated burnt bone fragments. Almost all the disarticulated bone is derived from grave fills containing skeletal remains and is likely to reflect disturbance, including intercutting of earlier burials. There were no sexually dimorphic elements in the disarticulated bone assemblage and it was not possible to determine ancestry or stature in any of the remains.

Palaeopathological analysis revealed that a disarticulated left tibial midshaft (recovered from context **12779**) exhibited lamellar bone on its posterior surface. A femur from context **12507** (top fill of ring ditch **12323**, likely associated with the cemetery) also showed evidence for mild lamellar bone, indicative of healing inflammation. An adult ulna from context **12698** had marginal osteophytes around the rim of the olecranon process indicative of degenerative joint changes.

Cremation burials from Bainesse Cemetery

Seventeen cremation burials were excavated from Field 163C, which dated from AD17–126 to AD214–391 (Table 6.32). The cremation burial with the latest date range (Grave **273**) was located next to a penannular gully **12353**. The cremation burials were largely confined to the southern aspect of the cemetery and a cluster appears to concentrate around the ring ditch **12500**. Only Graves **257** and **258** were located further north, approximately in the middle of the cemetery, near a 5m gap in the enclosure ditch. Five (29.4%) of the cremation burials contained urns, which dated from the early 2nd to the early 3rd century AD, although in the case of Grave **273** this was only indicated by the presence of an in situ fragmented pot base.

The assemblages were either moderately well preserved (52.9%) or poorly preserved (47.1%) and burial in an urn did not result in better preservation, unlike that seen in other Roman cemeteries (Thompson *et al*. 2016, 834).

Bone weight varied from 9g to 1,274.3g, with an average weight of 150.7g. In 130 Roman cremation burials analysed by the authors (see Table 6.3 for summary of sites and references), bone weight ranged from 0.1g to 1,604g, with a mean of 174.4g. The weights recovered represent considerably less than the expected quantity of cremated bone produced by modern crematoria, which tends to range from 1,000.5g to 2,422.5g with a mean of 1,625.9g (McKinley 1993). As discussed earlier, this may be due to only a portion of the cremated skeleton being selected for burial (Wahl 1982, 25), as well as post-depositional factors, such as truncation. Another reason for the smaller weights might be the large proportion of non-adults in this assemblage. An experimental study by Warren and Maples (1997) of 100 modern cremations has revealed that on average, adults tend to weigh 3.5% of their original weight after cremation, while children weigh 2.5% and foetuses 1% of their living weight. Since the full cremated individual was not present in any of the cremation burials at Bainesse, these findings could not be verified.

However, it was interesting that when comparing the cremated bone weight of the adults at Bainesse (309.7g on average) with that of the non-adults (153.6g on average), the weight of the non-adults was almost exactly half of the adult weight, suggesting that both age and bone selection affected the excavated assemblage weight at this site. It is also thought that cremated bone weight is affected by sex (Wahl 2008). However, since sex could not be determined in any of the Bainesse cremated bone assemblages, this cannot be investigated here.

At Driffield Terrace, a similar average weight was recovered from the cremation burials as at Bainesse, with 173.5g of bone, while the mean bone weight at Waterdale was much lower, with 42.3g. At Healam Bridge, the mean weight was much higher than at Bainesse (341.31g).

The maximum fragment size ranged from 7.2mm to 70.7mm, with a mean of 28.5mm. At Driffield Terrace, the mean maximum bone length in the cremation burials was 49.9mm, which is considerably larger than at Bainesse, while the mean maximum bone length at Waterdale corresponded to that from Bainesse (27.7mm). The mean maximum bone length at Healam Bridge was longer, at 50.8mm.

In the majority of the burials, the largest quantity of bone was derived from the 5mm sieve (Table 6.33). This was followed by the 2mm sieve category or smaller, from which an average of 43% of bone was recovered. Only a small proportion of bone fragments was recovered from the 10mm sieve, with some burials consisting of bone no larger than 5mm in size. This increased the difficulty of bone identification.

The bone fragment size is much smaller on average than at Driffield Terrace, where 40% of bone fell into the 10mm sieve category and 45.6% in the 5mm sieve category, while fragmentation was similar at Healam Bridge, with most bone recovered from the 5mm sieve.

As already discussed, fragmentation can be caused by a range of factors, including tending, stoking and movement of the pyre (Thompson *et al*. 2016). Collapse of the pyre, quenching the remains of the pyre and raking the pyre residue for bone selection could also contribute to fragmentation (Noy 2000a), as well as taphonomic factors, such as truncation and ploughing.

Table 6.32: summary of cremation burials from Bainesse.

Grave No.	Fill	Feature Type	Urned	Date (cal AD)	Bone Colour	Preservation	Weight (g)	% of Expected Bone Quantity†	Max. Fragment	MNI	Age	Notes
257	12400	Cremation pit	N	1: 21–11BC (1.2%), 2BC–AD133 (94.2%) 2: 35–31BC (0.7%), 22–11BC (2%), 2BC–AD130 (92.7%)	White, grey	Moderate	373.7	23	20.5	1	A	-
258	12414	Cremation pit	N	90–100 (1.1%), 124–260 (85.3%), 280–325 (9.0%)	White, blue/ grey	Moderate	41.5	2.6	13.5	1	-	-
259	12685	Cremation pit	N	135–333 (95.4%)	Light grey, blue, black	Moderate	38.2	2.3	28.7	1	A?	-
260	12348, 12350	Urned cremation	Y	135–335 (95.4%)	White	Moderate	1274.3	78.4	70.7	1	A	-
261	12361, 12341, 12356	Cremation pit	Y	87–108 (2.7%), 120–257 (89.4%), 298–320 (3.2%)	White, grey	Poor	256.3	15.8	34.4	1	A	-
262	12322	Cremation pit	N	83–251 (95.4%)	White	Moderate	9	0.6	22.4	-	-	-
263	12343, 12357, 12358	Cremation pit	N	81–247 (95.4%)	White	Poor	14.8	0.9	11.2	1	AD/ YA	-
264	12300, 12304	Cremation pit	N	90–100 (1.2%), 124–259 (87.4%), 283–323 (6.8%)	White, blue/ grey	Moderate	81.3	-	26.4	1	OJ	-
265	12318	Cremation pit	N	80–246 (95.4%)	White/grey	Moderate	127.8	7.9	25.8	1	A	-
266	12312, 12313	Cremation pit	N	68–227 (95.4%)	White	Poor	172.6	-	29.5	1	OJ/ AD	-
267	12311	Cremation pit	N	135–333 (95.4%)	White	Moderate	348.4	21.4	12.7	1	A	-
269	12293, 12294, 12297	Urned cremation	Y	127–261 (81.7%), 278–327 (13.7%)	White	Poor	56.7	-	38.4	1	I/YJ	-
270	12320	Cremation pit	N	135–334 (95.4%)	White	Poor	39.6	2.4	25.5	1	A	-
271	13070	Cremation pit	Y	84–243 (95.4%)	White	Poor	234.5	-	46.6	1	OJ/ AD	Lamellar bone on upper and lower limb bones, hypervascularity on skull
272	13062, 13063, 13066	Cremation pit	N	73–230 (95.4%)	White, grey	Poor	162.1	-	28	1	OJ	Lamellar bone on lower limb fragments
273	12352, 12354	Urned cremation	Y	180–185 (0.4%), 214–391 (95.0%)	White, grey	Moderate	20.2	1.2	25.9	1	A	-
274	13125	Cremation pit	N	1: 46BC–AD85 (95.4%)—faulty? 2: 133–333 (95.4%)	White, grey	Poor	350	-	25	1	NA	-

† Weight of bone is expressed as a percentage of average weight of bone recovered from modern cremation burials (1,625.9g, McKinley 1993). However, this cannot be calculated for non-adults or multiple burials, which have been left blank. Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); F = Foetus (up to 40 weeks in utero); N = Neonate (Birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years); NA = non-adult.

Adequate time, plentiful oxygen and high temperatures (c.600ºC and over) result in fully oxidised white bone, while lack of or insufficient oxygen and temperatures (between c.300–600ºC) produce partially oxidised bone ranging in colour from dark to pale grey (McKinley 2004b). With a lack of oxygen and temperatures below c.300ºC charring of the bone can occur, seen as brown and black colours (*ibid.*). All but one assemblage (94.1%) was white in colour, although eight (47.1%) of the burials also contained a small quantity of grey bones. One of the assemblages (Grave **259**) only contained grey, blue and black coloured bone, indicating the bone was only partially oxidised because of burning at moderate temperatures (c.300–600ºC) with inadequate oxygen supplies, and possibly that the duration of the cremation was not long enough to allow full mineralisation.

Table 6.33: summary of cremated bone fragment size from Bainesse.

Grave No.	10mm (g)	10mm (%)	5mm (g)	5mm (%)	2mm (g)	2mm (%)	<2mm	Weight (g)
257	22.6	6	177.8	47.6	167.1	44.7	6.2	373.7
258	6.4	15.4	19.7	47.5	14.7	35.4	0.7	41.5
259	7.2	18.8	18.4	48.2	11.9	31.2	0.7	38.2
260	599.6	47.1	481.8	37.8	171.3	13.4	21.6	1274.3
261	72.7	28.4	113.4	44.2	68.4	26.7	1.8	256.3
262	0	-	5	55.6	3.7	41.1	0.3	9
263	0	-	3.7	25.9	10.6	74.1	0.5	14.3
264	2.6	3.2	14.4	17.7	62	76.3	2.3	81.3
265	8	6.3	40	31.3	74	57.9	5.8	127.8
266	25.3	14.7	88.1	51	56.6	32.8	2.6	172.6
267	50.2	14.4	171.2	49.1	118.5	34	8.5	348.4
269	10.2	18	21	37	20.5	30.7	5	56.7
270	1.8	4.5	15.2	38.4	21.1	53.3	1.5	39.6
271	52.7	22.5	97.8	41.7	77.7	33.1	6.3	234.5
272	34.9	21.5	74.3	45.8	50.6	31.2	2.3	162.1
273	2.7	13.4	10.3	51	6.9	34.2	0.3	20.2
274	127.7	36.5	148.1	42.3	59.9	17.1	14.3	350

Table 6.34: summary of identifiable elements in the Bainesse cremation burials.

Grave No.	Skull (g)	Skull (%)	Axial (g)	Axial (%)	UL (g)	UL (%)	LL (g)	LL (%)	UIL (g)	UIL (%)	Total ID (g)	Total ID (%)	Total UID (g)	Total UID (%)
257	56.5	15.1	25.7	6.9	26.1	7	9.6	2.6	71.6	19.2	189.5	50.7	184.2	49.3
258	1.6	3.9	0	-	1.1	2.7	0	-	19.1	46	21.8	52.5	19.7	47.5
259	8.4	22	1.7	4.5	1.5	3.9	0	-	9.9	25.9	21.5	56.3	16.7	43.7
260	234.1	18.4	105.5	8.3	159.2	12.5	208.9	16.4	272.6	21.4	990.3	77.7	284	22.3
261	39.7	15.5	51.7	20.2	27.9	10.9	19.4	7.6	52.6	20.5	191.3	74.6	65	25.4
262	0	-	0	-	0	-	0	-	6	66.7	6	66.7	3	33.3
263	0.9	6.1	0.2	1.4	0	-	0	-	3.8	25,7	4.9	33.1	9.9	66.9
264	5.4	6.6	1.7	2.1	4.6	5.7	0.9	1.1	18.9	23.2	31.5	38.7	49.8	61.3
265	0.4	0.3	2.1	1.6	2	1.6	1.9	1.5	46.6	36.5	53	41.5	74.8	58.5
266	14	11.3	4.4	3.6	0	-	2.7	2.2	53	42.8	74.1	59.8	49.8	40.2
267	39.7	11.4	23.5	6.7	1	0.3	0	-	129.8	37.3	194	55.7	154.4	44.3
269	12.8	17.3	2.4	3.2	1.4	1.9	1.9	2.6	5.9	8	24.4	32.9	49.8	67.1
270	0.5	1.3	0	-	0	-	0	-	16.4	41.4	16.9	42.7	22.7	57.3
271	22.2	9.5	26	11.1	8.8	3.8	6.6	2.8	66.4	28.3	130	55.4	104.5	44.6
272	10.4	6.4	0	-	5.4	3.3	31.4	19.4	58.9	36.3	106.1	65.6	39.9	24.6
273	10.3	51	0.2	1	0	-	0	-	4.1	20.3	14.6	72.3	5.6	27.7
274	44.9	12.8	22.5	6.4	25.1	7.2	39.1	11.2	87.3	24.9	218.9	62.5	131.1	37.5

Key: UL = upper limb; LL = lower limb; UIL = unidentified long bone.

The comparatively uniform colour of cremated bone assemblages at Bainesse is unlike the large variation of colour in Roman military cremation cemeteries in northern England, where it has been suggested that cremation was undertaken in a relatively prescriptive manner and the pyre was left untended, leading to greater variation in colour than seen here (Thompson *et al*. 2016, 834). This was also the case at Waterdale, where the bone in the 32 1st- and 2nd-century burials was relatively uniform in colour. At Driffield Terrace and Healam Bridge, however, a high proportion of the fragments displayed more than one colour with a predominantly grey colour.

Between 33.1% and 66.7% of bone was identifiable, with an average of 53.9% (Table 6.34). The majority of identifiable bones consisted of generic long bone fragments that could not be identified more precisely and on average represented 31% of the cremated bone assemblages. This was followed by skull fragments (11.9% of the assemblages on average), axial fragments (5.0% of the assemblages on average), lower limb (3.1% of the assemblages on average) and upper limb (2.7% of the assemblages on average).

At Waterdale and Healam Bridge, other than generic long bone fragments, skull fragments were most commonly identified, followed by upper limb bones.

Double cremation burials were not identified, suggesting an MNI of one individual per cremation burial.

It was not possible to identify sex in any of the cremated bone assemblages from Bainesse. However, approximate age determination was possible in fourteen (82.4%) of the burials, which included eight adults (57.1%), one non-adult (0–18 years; 7.1%), one adolescent or young adult (aged 13–25 years; 7.1%), two older juveniles or adolescents (aged 6–17 years; 14.3%), one older juvenile (aged 6–12 years; 7.1%) and one infant or younger juvenile (aged 3 months to 6 years; 7.1%). This suggests that almost half of the cremated population were non-adults.

At Driffield Terrace, age could only be determined in 43.2% of cremation burials. A total of 27% of the features contained adult individuals and 18.9% contained possible adult individuals, while 10.8% contained adults or older adolescents (age could not be assessed in the remainder of burials). The age profile at Driffield Terrace is therefore much older when compared with Bainesse. At Waterdale, it was not possible to identify age in most burials, but where it was possible, most individuals were adults. At Healam Bridge, it was possible to assess age in all seven burials, which included four adults, two double burials of adults and neonates, and one adolescent.

During cremation, tooth crowns tend to shatter (Sandholzer *et al*. 2014). However, unerupted teeth are slightly better protected from the heat in the crypts of the maxilla and mandible, and can often be identified (McKinley 1994). Overall, ten cremation context contained fragments of teeth. These consisted largely of root fragments, but in some cases, crown fragments were present. Dental pathology was not recorded on any of the cremated tooth fragments.

BURIALS AT *CATARACTONIUM*

A total of 35 graves were excavated from Brough Park (Field 172), Fort Bridge (Field 176FB), Brompton West (Field 177/178) and Brompton East (Field 179), and were associated with the Roman town at *Cataractonium*. These included 31 inhumed individuals (from 26 inhumation burials) and nine cremation burials. In addition, 502 unburnt disarticulated human bones and six residual cremated bone assemblages were also recovered.

DISCUSSION OF THE HUMAN REMAINS FROM CATARACTONIUM

Inhumations

A total of 31 inhumed individuals were recovered from 26 graves at *Cataractonium* (Table 6.35). The bone surface preservation of the skeletons was largely moderate (Grade 3; 29%) to poor (Grade 4; 19.4%), with some being very poorly preserved (Grade 5; 19.4%; Fig. 6.30). Few skeletons showed good (Grade 2; 19.4%) bone surface preservation and even fewer had very good (Grade 1; 12.9%) surface preservation. The degradation of the external aspects of the bones hindered assessment of age, sex and the identification of pathology.

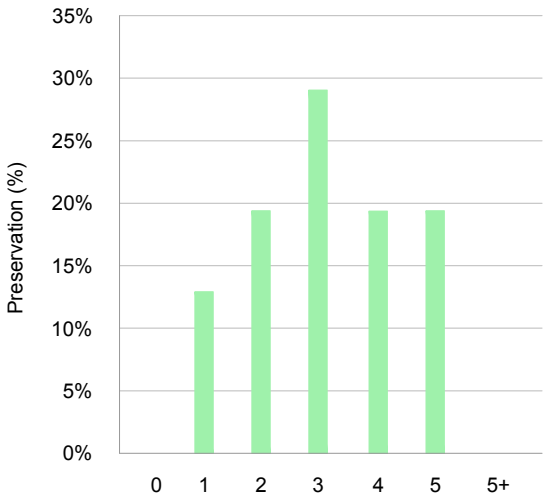


Figure 6.30: graph showing preservation of skeletal remains at Cataractonium according to McKinley (2004a).

Table 6.35: summary of osteological results from the inhumation burials discovered at Cataractonium.

Field No	Grave No.	SK No.	Frag.	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD)
176FB	18024	18026	Mod	1	60	0-1 mnth	P	-	-	-	-	21BC–AD124 (95.4%)
176FB	21162	21155	Mod	2	60	24-26 wks in utero	F		-	-	-	71–217 (95.4%)
176FB	21904	21901	Min	1	40	0-1 mnth	P	-	-	-	-	80–224 (95.4%)
177/178	1225	1223	Mod	4	10	1-12	J	-	-	-	-	218–385 (95.4%)
177/178	20114	20116	Mod	3	80	46+	MA	M	166.6	Calculus, moderate periodontal disease, ante-mortem tooth loss, heavily slanted wear on the left mandibular canine and first premolar	DJD in the left clavicle, the right humerus and auricular surface, both femora, the right first metatarsal, cervical and thoracic Spine. OA in the cervical, thoracic and lumbar spine. Schmorl's nodes in the thoracic spine. Possible well remodelled OD on the distal right humerus.	144–154 (1.0%), 168–195 (3.2%), 210–385 (91.2%)
177/178	20114	20117	Mod	4	70	26-35	YMA	F	158.3	Calculus, DEH, caries, ante-mortem tooth loss	Spondylolysis of L5	224–391 (95.4%)
177/178	20114	20118	Severe	3	60	1-6	YJ	-	-	Calculus, chips on the enamel	-	243–395 (95.4%)
177/178	20114	20119	Severe	4	20	1-6	YJ	-	-	Calculus	-	247–395 (95.4%)
177/178	20114	20120	Severe	3	40	1-6	YJ	-	-	-	-	249–402 (95.4%)
177/178	20159	20190	Mod	3	30	18+	A	-	-	-	Trauma to the capsular attachment of the right ankle, affecting the distal tibia, talus and calcaneus	140–420 (95.4%)
177/178	20198	20197	Severe	5	60	18+	A	F	-	-	DJC in both femora and right acetabulum	134–334 (95.4%)
177/178	20200	20201	Min	1	30	0-1 mnth	P	-	-	-	-	-
177/178	20340	20342	Severe	5	70	18-25	YA	F??	153.5	Calculus, DEH	-	241–427 (95.4%)
177/178	20417	20416	Mod	3	100	36-45	OMA	M	163.75	Ante-mortem tooth loss, calculus, DEH, broken tooth, abscess, moderate periodontal disease.	DJC in the cervical, thoracic and lumbar spine and the left femur. Enigmatic lytic lesions on the anterior body of the 1st and 2nd thoracic vertebra. Bilateral hypoplasia of the femoral necks	231–392 (95.4%)

Table 6.35 (cont.): summary of osteological results from the inhumation burials discovered at Cataractonium.

Field No	Grave No.	SK No.	Frag.	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD)
177/178	20418	20395	Mod	2	80	18-25	YA	M	-	Calculus	Schmorl's nodes in the thoracic spine. Possible lumbarisation of S1. Possible cox vara of the left femur. Possible cortical defect / OD on the proximal articulation of the right proximal phalanx for MT1	255–302 (15.7%), 316–422 (79.7%)
177/178	20474	20475	Mod	5	60	18+	A	F??	-	Calculus, DEH, chipped enamel	Possible depression fracture on the right parietal	220–440 (95.4%)
177/178	20476	20477	Mod	3	75	13-17	AD	-	-	Calculus, DEH	Woven bone on the pleural surface of the 2nd-8th left ribs. Cribra orbitalia. Sinusitis	210–430 (95.4%)
177/178	20532	20585	Mod	4	80	26-35	YMA	F	-	Ante-mortem tooth loss, calculus, caries, DEH, slight periodontal disease, chips on dental enamel	Hiatus in the right transverse foramen of the second cervical vertebra	160–420 (95.4%)
177/178	20532	20543	Mod	1	40	0-1 mnth	P	-	-	-	-	245–395 (95.4%)
177/178	20571	20573	Mod	3	80	36-45	OMA	M	-	Ante-mortem tooth loss, calculus, caries, abscess, slight periodontal disease	DJC in the cervical and thoracic spine, both hips the right ankle and the left hand. OA in the thoracic spine and right hip. Calcaneus secundarius, in the left calcaneus. Well healed fracture to the right distal fibula, with associated ligament damage. Possible compression fracture to the posterior margin of the distal right tibia. Possible healed fracture to the distal shaft of the left second metacarpal and associated trauma to the proximal and intermediate phalanges for the metacarpal. Cribra Orbitalia. Sinusitis	218–392 (95.45%)
177/178	20606	20604	Mod	5	40	18+	A	-	-	Caries, abscess	-	170–190 (0.5%), 210–430 (94.9%)

Table 6.35 (cont.): summary of osteological results from the inhumation burials discovered at Cataractonium.

Field No	Grave No.	SK No.	Frag.	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD)
177/178	20601	20603	Mod	3	90	18-25	YA	Ind	157.2 ± 2.99 (M) 153.6 ± 3.55 (F)	calculus, slight periodontal disease, chips on dental enamel	Sinusitis. Cribra Orbitalia. Hypoplasia/underdevelopment of the left hook of hamate	219–388 (95.4%)
177/178	20616	20615	Mod	5	50	18+	A	F?	-	Calculus, chips on dental enamel	-	226–391 (95.4%)
177/178	20621	20691	Mod	4	70	7-12	OJ	-	-	DEH	-	170–420 (95.4%)
177/178	20662	20721	Mod	5	60	46+	MA	M?	-	Calculus, caries, chip on dental enamel, abscess, periodontal disease	Button osteomas on the left parietal. Cribra Orbitalia. Sinusitis	220–510 (95.4%)
177/178	20796	20844	Severe	2	25	26-35	YMA	M??	-	Calculus, caries, DEH	Cribra Orbitalia	220–510 (95.4%)
177/178	20812	20813	Mod	2	80	36-45	OMA	Ind	173.3 (M) 170.8 (F)	Calculus, caries, impacted teeth	Cribra Orbitalia. DJC in the left hip, an un-sided intermediate hand phalanx and a left proximal pedal phalanx. Cortical defect/ OD on the distal left humerus Possible crush fractures, to two intermediate and distal pedal phalanges	245–400 (95.4%)
177/178	20955	20957	Mod	3	90	36-45	OMA	M	156.4 — African 159.8 — Caucasian		Healed fracture to the distal left fibula. Bilateral calcaneus secundarius. Asymmetrical spondylolysis of L2 or L3. Enigmatic lesion on the buccal side of the right mandible. Vascularised lamella bone on the endocranial surface of the occipital. Spherical lesion present on the posterior, distal surface of the shaft of the left femur.	81–251 (95.4%)
177/178	20960	20962	Mod	4	90	18+	A	M?	165	Ante-mortem tooth loss, caries, abscess.	-	135–344 (95.4%)
177/178	21026	20188	Mod	2	40	0-1 mnth	P	-	-	-	-	126–260 (85.4%), 280–325 (10.0%)
179	9343	9091	Slight	2	60	0-1 mnth	P	-	-	-	Periosteal reaction on skull - possible trauma or scurvy	140–400 (95.4%)

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); AD = adolescent; OJ = older juvenile; YJ = younger juvenile; I = infant; N = neonate; P = perinate; F = foetus; M = male; F = female; U = unsexed; I = indeterminate sex; DEH = dental enamel hypoplasia; AMTL = ante-mortem tooth loss; DJC = degenerative joint changes; OA = osteoarthritis; OD = osteochondritis dissecans; DISH = diffuse idiopathic skeletal hyperostosis.

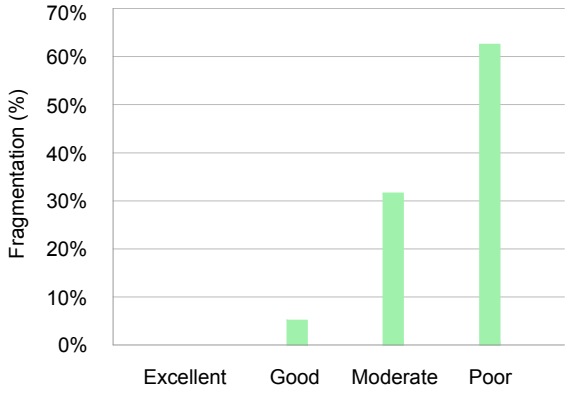


Figure 6.31: graph showing severity of skeletal fragmentation at Cataractonium.

The fragmentation of the inhumed skeletons was mostly moderate (71%), with a fifth of the inhumations being severely fragmented (19.4%) and a small number of skeletons being only slightly fragmented (9.7%; Fig. 6.31).

The completeness of the skeletons was comparatively better, with 29% of the skeletons being 61% to 80% complete and 12.9% of skeletons being more than 80% complete (Fig. 6.32). However, more than half of the inhumed population were incomplete, with 25.8% of skeletons being 41% to 60% complete, 25.8% of skeletons being 21% to 40% complete and 6.5% being less than 20% complete.

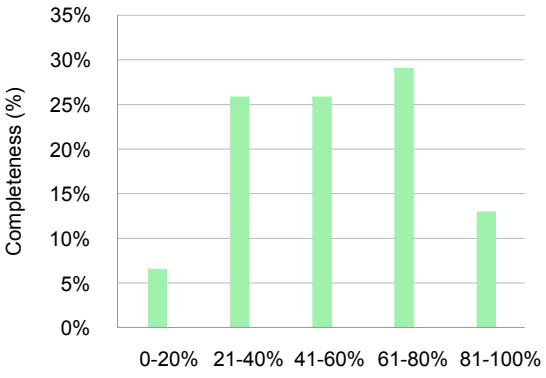


Figure 6.32: degree of completeness of skeletons at Cataractonium.

The general trend at *Cataractonium* was that skeletons had more than half of the bone elements present, exhibiting moderate surface preservation and moderate fragmentation.

Demography

A total of 26 inhumation graves were excavated, containing the skeletal remains of 31 individuals. In the calculation of the minimum number of individuals, the disarticulated bone fragments were included, producing an MNI of 35 skeletons, including twenty adults, two adolescents, five juveniles and eight neonates. Only the articulated sample (n=31) will be included in the analysis of the demographic data below.

Eighteen (58.1%) of the skeletons were adults and 13 (41.9%) were non-adults. It was possible to determine sex in 15 of the adults (83.3%; Fig. 6.33). Half the adult population were male (50%) and a third were female (33.3%). Sex could not be determined in two individuals (11.0%) because the sexing criteria were not preserved, while the sex estimation was not possible in one individual (5.5%) because the observable sexual characteristics differed too greatly.

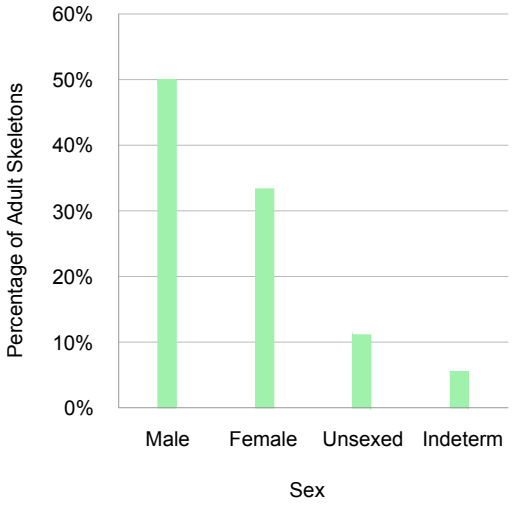


Figure 6.33: graph showing sex distribution of the adult population from Cataractonium.

Table 6.36: sex and age distribution for the adult population at Cataractonium.

Age Group	Male	%	Female	%	Unsexed	%	Indeterm	%	Total	%
YA	1	11.1%	1	16.7%	0	0.0%	1	100.0%	3	16.7%
YMA	1	11.1%	2	33.3%	0	0.0%	0	0.0%	3	16.7%
OMA	4	44.4%	0	0.0%	0	0.0%	0	0.0%	4	22.2%
MA	2	22.2%	0	0.0%	0	0.0%	0	0.0%	2	11.1%
A	1	11.1%	3	50.0%	2	100.0%	0	0.0%	6	33.3%
Total	**9**		**6**		**2**		**1**		**18**	

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

The adults consisted of 16.7% young adults (18–25 years). One of these was male, one was female, and one was of indeterminate sex (Table 6.36, Fig. 6.34). There were three young middle adults (26–35 years), including one male and two females. Four old middle adults (36–45 years) were all male, as were the two mature adults (46+ years). Six adults (18+ years), whose age could not be identified any more specifically included one male, three females and two individuals of undetermined sex.

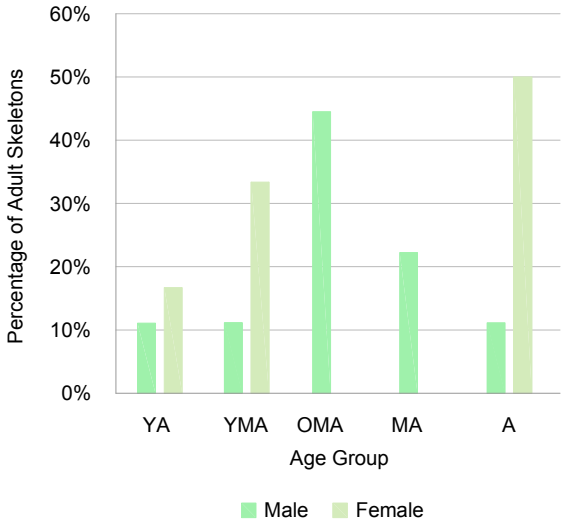


Figure 6.34: graph showing distribution of age and sex in the adult population from Cataractonium.

While there are more males than females overall, it is possible that a proportion of the unsexed skeletons may have been female, generating a skew in the data. The females were largely younger adults or unspecified adults (18+ years), whereas most males were old middle adults (36–45 years). However, in such a small sample, it is difficult to draw broader conclusions.

Thirteen of the skeletons at *Cataractonium* were non-adults (aged under 18 years old). Half of these were neonates (birth to one month of age) and a quarter were young juveniles aged between one to six years (Table 6.37 and Fig. 6.35). There was one foetus and one adolescent, as well as two older juveniles.

Based on visual assessment of Skeleton 20957 (Grave **20955**, old middle adult male) for ancestry, a mixture

Table 6.37: age distribution for the non-adult population at Cataractonium.

Age	F	N	I	YJ	OJ	AD	Total
Number	1	6	0	3	2	1	13
%	8.3%	50.0%	0.0%	25.0%	16.7%	8.3%	-

Key: F = Foetus (up to 40 weeks in utero); N = Neonate (birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = adolescent (13–17 years).

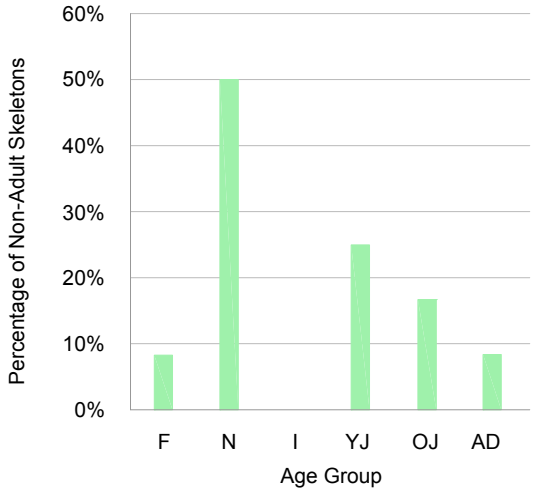


Figure 6.35: graph showing the age distribution of the non-adult population from Cataractonium.

of Caucasian and African cranial traits was observed. Skeleton 20957 was one of the earliest skeletons from *Cataractonium* and represents 3.2% of the population.

Metrical analyses

Stature could be calculated for six adults—four males and two females (Table 6.38). The mean height of the males was 167.2cm, which was slightly shorter than the mean male height for the period (169cm), but well within the range of heights (Roberts and Cox 2003, 142). The female mean stature at *Cataractonium* was 155.9cm, which was also slightly shorter than the female mean for the period (159cm; *ibid*.). However, the sample sizes for stature for both males and females at this site are very small.

Skeleton 20957 (Grave **20955**, old middle adult male) had extremely straight femoral shafts (a typically African trait); unfortunately, the individual's skull was fragmented and incomplete, making it difficult to assess any further ancestral traits. Due to the uncertainty of the individual's

Table 6.38: stature distribution for adult population from Cataractonium.

Sex	Number		Mean	Range	
	(n)	(%)		Min	Max
Male	4	44.40%	167.2	163.8	173.3
Female	2	33.30%	155.9	153.5	158.3

Table 6.39: robusticity measurements for the femur.

Sex	Right			Left		
	Mean	Range		Mean	Range	
		Min	Max		Min	Max
Male	74.2	68	82	79.2	66.2	86.8
Female	74.6	73.2	76	71.5	71.3	71.6
Unsexed	74.6	74.6	74.6	74.1	74.1	74.1
Total	**74.3**	**68**	**82**	**77.2**	**66.2**	**86.8**

Table 6.40: metric indices for the femur.

Indices	Male				Female				Unsexed				Total			
	Right		Left		Right		Left		Right		Left		Right		Left	
Platymeric	7	100.0%	6	85.7%	2	100.0%	2	100.0%	1	100.0%	1	100.0%	10	100.0%	9	90.0%
Eurymeric	0	0.0%	1	14.3%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	10.0%
Total	**7**		**7**		**2**		**2**		**1**		**1**		**10**		**10**	

Table 6.41: robusticity measurements for the tibia.

Sex	Right			Left		
	Mean	Range		Mean	Range	
		Min	Max		Min	Max
Male	68.1	57.4	79.3	70.2	61.5	79.2
Female	74.6	71.8	78.6	74.5	74.5	74.5
Unsexed	76.8	72.2	81.4	71.9	71.8	72
Total	**72**	**57.4**	**81.4**	**71.3**	**61.5**	**79.2**

ancestry, stature calculations were made using both the Caucasian and African formula. Skeleton 20957 would have been 156.4cm if they were of African ancestry, or 159.75cm tall if they were Caucasian. Both calculations, however, show that the individual would have been considerably shorter than the mean for the period of 169cm (Roberts and Cox 2003, 142) and would only have fallen into the lowermost end of the range for the period if they were Caucasian (*ibid.*).

Leg measurements were obtained from the femora and tibiae to calculate the shape and robusticity of the femoral shaft (*platymeric* index) and the tibial shaft (*platycnemic* index; Bass 1987). The *meric* index revealed that nearly all the femora (100% of right and 90% of left femora) fell into the *platymeric* range (broad and flat) with only one femoral shaft (10%) falling into the *eurymeric* range (rounded; Tables 6.39 and 6.40).

The *cnemic* index revealed that the shape of the tibiae was slightly more varied; the majority (72.2%) of tibiae were *eurycnemic* (broad), with the remainder being either *mesocnemic* (16.7%, average) or *platycnemic* (11.1%, flattened; Tables 6.41 and 6.42).

Non-metric traits

The most common cranial non-metric traits at *Cataractonium* were *mastoid foramen extrasutural* (a small hole near the ear; right 70%, left 55.6%). *Parietal foramen* (small holes in the top of the skull) on the right side were also common (69.2%)

Other prevalent non-metric traits were *ossicles at asterion* on the left side (extra bones in the suture at the back of the skull; 50%). Bennett (1965) has suggested that the formation of ossicles in this suture may be related to stresses placed on the growing cranium during foetal life and early infancy. *Accessory supraorbital foramen* (a small hole above the eye orbit; 42.9%) were common, as were *metopic sutures* (sutural line in the middle of the forehead; 35.3%; Table 6.43). The *metopic suture* usually begins to obliterate at the end of the first year of life (Mann and Hunt 2005, 27). The suture may persist into adulthood in around 1–12% of the population (Krogman and İşcan 1986) and is believed to be a hereditary trait, which may indicate genetic relationships.

Cranial traits are more likely to be genetic in origin than those noted on the remaining part of the skeleton, which can often be created by mechanical stress. The latter includes third trochanters, which are raised areas at the back of the femora at the attachments of the *gluteus maximus* muscle. The raised areas are thought to reflect strain on the muscle, which was observed in 75% of right femora, but only 12.5% of left femora (Table 6.44). *Hypotrochanteric fossae* are grooves in the same area of the femur, which were observed in 41.7% of right and 50% of left femora. This may be related to the *platymeric* (flattened) shape commonly seen amongst the femora of this population (see above).

A *circumflex sulcus* (a groove on the lateral border of the scapula) was seen in half the shoulder blades. *Lateral tibial squatting facets*, possibly thought to be related to habitual squatting, were observed in 75% of right tibiae and 80% of left tibiae.

Table 6.42: cnemic indices for the tibia.

Indices	Male				Female				Unsexed				Total			
	Right		Left		Right		Left		Right		Left		Right		Left	
Platycnemic	1	20.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	1	9.1%	1	14.3%
Mesocnemic	2	40.0%	1	25.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%	2	18.2%	1	14.3%
Eurycnemic	2	40.0%	2	50.0%	4	100.0%	1	100.0%	2	100.0%	2	100.0%	8	72.7%	5	71.4%
Total	**5**		**4**		**4**		**1**		**2**		**2**		**11**		**7**	

Table 6.43: cranial non-metric traits.

Midline Traits	Trait Present	Part Present	%			
Ossicle at lambda	2	11	18.2%			
Ossicle at bregma	0	12	0.0%			
Metopic suture	6	17	35.3%			
Palatine torus	1	4	25.0%			
Precondylar tubercle	0	7	0.0%			
Paired Traits	**Right**			**Left**		
	Trait Present	**Part Present**	**%**	**Trait Present**	**Part Present**	**%**
Highest nuchal line	0	13	0.0%	0	13	0.0%
Lambdoid ossicle	4	10	40.0%	4	10	40.0%
Coronal ossicle	0	12	0.0%	0	11	0.0%
Ossicle at asterion	0	2	0.0%	1	2	50.0%
Ossicle at parietal notch	0	3	0.0%	0	3	0.0%
Ossicle at pterion	0	0	0.0%	0	0	0.0%
Parietal foramen	9	13	69.2%	3	14	21.4%
Auditory torus	0	11	0.0%	0	13	0.0%
Foramen of huschke	0	9	0.0%	1	10	10.0%
Mastoid for. extrasutural	7	10	70.0%	5	9	55.6%
Sutural mastoid foramen	2	4	50.0%	2	4	50.0%
Open post. condylar canal	1	3	33.3%	0	3	0.0%
Double condylar facet	0	8	0.0%	0	7	0.0%
Double ant. condylar canal	1	10	10.0%	0	7	0.0%
For. ovale incomplete	0	2	0.0%	0	3	0.0%
Open for. spinosum	0	1	0.0%	1	3	33.3%
Access. less. palat. for.	0	3	0.0%	0	3	0.0%
Maxillary torus	1	5	20.0%	1	5	20.0%
Mandibular torus	2	10	20.0%	2	9	22.2%
Zygomatic facial for. abs.	1	9	11.1%	1	6	16.7%
Access infra-orb for.	0	2	0.0%	0	3	0.0%
Access supraorbital for.	3	7	42.9%	0	6	0.0%
Bridging supraorbital notch	0	8	0.0%	1	7	14.3%
Anterior ethmoid for. ex.	0	0	0.0%	0	0	0.0%
Posterior ethmoid for. ex.	0	0	0.0%	0	0	0.0%

Pathology

As in previous sections, all bones were examined macroscopically for evidence of pathological changes. As many potential causes of pathological changes have been described earlier in the chapter, only those that have not been identified so far will be addressed in as much detail within this section.

Congenital conditions

Five (16.1%) individuals from *Cataractonium* had congenital conditions.

As previously discussed, to observe the presence of border shifts and additional vertebrae, a complete and well preserved spine is required. Unfortunately, many of the individuals from *Cataractonium* had incomplete spines, or spines so fragmented that it was impossible to reassemble individual vertebrae or to sequence them. However, Skeleton 20395 (Grave **20418**, young adult male) had a possible vertebral border shift at the lumbar-sacral border of the spine, with the possible lumbarisation of the first sacral vertebra or the partial sacralisation of the fifth lumbar vertebra.

The hamate is one of the eight small carpal bones found in the wrist and it usually has a prominent 'hook' on the palmar surface. In Skeleton 20603 (Grave **20601**, indeterminate young adult adult) the hook of the left hamate was extremely underdeveloped. In modern

Table 6.44: post-cranial non-metric traits.

Midline Traits	Trait Present	Part Present	%			
Sternal foramen	0	0	0.0%			
Paired Traits	**Right**			**Left**		
	Trait Present	**Part Present**	**%**	**Trait Present**	**Part Present**	**%**
Lateral atlas bridging	0	3	0.0%	0	3	0.0%
Double atlas facet	1	7	14.3%	0	7	0.0%
Posterior atlas bridging	1	2	50.0%	0	2	0.0%
Transverse for. bipartite	0	2	0.0%	1	2	50.0%
Suprascapular foramen	0	1	0.0%	0	0	0.0%
Accessory acromial facet	0	0	0.0%	0	2	0.0%
Circumflex sulcus	2	4	50.0%	2	4	50.0%
Supracondyloid process	0	14	0.0%	0	14	0.0%
Septal aperture	0	9	0.0%	2	10	20.0%
Accessory sacral facet	1	3	33.3%	0	2	0.0%
Acetabular crease	2	8	25.0%	2	9	22.2%
Allen's fossa	2	6	33.3%	3	8	37.5%
Poirier's facet	0	5	0.0%	0	8	0.0%
Plaque	1	6	16.7%	2	8	25.0%
Hypotrochanteric fossa	5	12	41.7%	6	12	50.0%
Exostosis in troch. fossa	0	5	0.0%	1	7	14.3%
Third trochanter	3	4	75.0%	1	8	12.5%
Emarginate patella	0	10	0.0%	1	8	12.5%
Vastus notch	2	10	20.0%	2	8	25.0%
Vastus fossa	2	10	20.0%	1	8	12.5%
Med. tib. squatting facet	0	3	0.0%	0	4	0.0%
Lat. tib squatting facet	3	4	75.0%	4	5	80.0%
Peroneal tubercle	0	4	0.0%	0	5	0.0%
Double ant. calc. facet	3	10	30.0%	4	10	40.0%
Absent ant. calc. facet	1	10	10.0%	1	10	10.0%
Double inf. talar facet	1	6	16.7%	2	8	25.0%
Med. talar facet	0	5	0.0%	0	8	0.0%
Lat. talar extension	0	8	0.0%	0	8	0.0%
Os trigonum	0	9	0.0%	0	9	0.0%

populations, absence or underdevelopment of the hook of hamate was found to correlate with the development of carpal tunnel syndrome (Chow *et al.* 2005). This affected 3.3% of the *Cataractonium* skeletons.

Skeleton 20395 (young adult male) may have potentially had *coxa vara,* a developmental anomaly leading to reduction of the angle between the shaft and the head of the femur, which affected the left femur (5.9% of

individuals with femora), the head of which was located below the normal height. Skeleton 20416 (Grave **20417**, old middle adult male) had short femoral necks, which were not so shortened or inferiorly angulated as to represent *coxa vara* but may have instead represented bilateral *hypoplasia* (underdevelopment) of the femoral necks.

The calcaneus (heel bone) can have a small ossicle of bone, known as the *calcaneus secundarius*, located in a crescent-shaped notch in the anterior calcaneal facet (Hodge 1999). In most individuals these ossicles do not cause any symptoms, but they can occasionally cause pain or a restriction in movement at the joint between the ankle and heel bones (Ceroni *et al.* 2006). *Calcaneus secundarius* can be difficult to differentiate from avulsion fractures to the anterior calcaneus (Hodge 1999). Such avulsion fractures to the anterior process are usually the result of forced plantar-flexion and inversion of the foot (Wedel and Galloway 2014, 300). Skeletons 20573 and 20957 (Graves **20571** and **20955**, old middle adult males; 16.7% of calcanei from *Cataractonium*) likely had *calcaneus secundarius*. However, considering both individuals had experienced traumatic injuries to their ankles (both skeletons had fractured their distal fibulae, see below), avulsion fractures cannot be ruled out as potential causes for the lesions.

Metabolic disease

Six individuals (19.4%) from *Cataractonium* showed evidence for *cribra orbitalia* (Table 6.45), a condition likely related to different forms of anaemia and other forms of childhood stress. The condition affected 42.9% of right orbits and 30% of left orbits and was most prevalent in males. It was also seen in the orbits of one non-adult.

Trauma

Skeletons 20573 (Grave **20571**, old middle adult male) and 20957 (Grave **20955**, old middle adult male) both had healed fractures to the distal shafts of their fibulae (ankle). A total of 22.2% of distal fibulae were affected. Skeleton 20957 (old middle adult male) also had a healed oblique fracture to the distal shaft of their left fibula. The fracture showed slight overlap of the two bone fragments and displacement of the lower fragment and was well-healed. Skeleton 20573 (old middle adult male) had a well healed oblique fracture to the distal shaft of their right distal fibula, with slight angulation of the lower fragment. Potentially associated with the traumatic incident that caused the fracture was evidence of soft tissue/ligament damage at the insertion of the interosseous ligament (see below).

Skeleton 20573 exhibited further possible trauma, affecting the left second metacarpal (bone in the palm associated with the index finger). The associated finger bone (proximal phalanx) also had a haematoma that had become ossified (turned to bone) and the joint also showed evidence for secondary degenerative joint disease. According to Wedel and Galloway (2014, 236), fractures in the palm of the hand are usually result from direct impact, such as hitting with a clenched fist. This type of fracture was observed in 3.2% of the *Cataractonium* population.

Two toe bones belonging to Skeleton 20813 (Grave **20812**, indeterminate, old middle adult; 3.2% of the *Cataractonium* population) had fused to one another. The changes observed were potentially the result of crush fractures. According to Wedel and Galloway (2014, 307), fractures of the toes are more frequently observed in males.

Skeleton 20475 (Grave **20474**, adult female; 5.9% of individuals with skulls) had a possible healed fracture on the right side of their skull (parietal bone). The sub-oval lesion was depressed with smooth sides and a smooth base. The affected area of impact appeared to be limited to the outer aspect of the skull. According to Wedel and Galloway (2014, 134), fractures to the parietal (sides of the skull) are among the most common of the cranial vault. These types of trauma are referred to as depressed fractures and are caused by compressive forces collapsing the external skull surface *(ibid.*, 138) and may be referred to as 'pond fractures' (Knight 1991). Such fractures are more commonly sustained by infants than any other age group (Wedel and Galloway 2014, 139).

Table 6.45: orbits affected by cribra orbitalia.

Sex	Right Orbit			Left Orbit			Individuals		
	P	A	%	P	A	%	P	A	%
Males	4	7	57.1%	2	6	33.3%	4	7	57.1%
Females	0	3	0.0%	0	2	0.0%	0	3	0.0%
Unsexed adults	1	1	100.0%	1	1	100.0%	1	1	100.0%
Non-adults	1	3	33.3%	0	1	0.0%	1	3	33.3%
Total	**6**	**14**	**42.9%**	**3**	**10**	**30.0%**	**6**	**14**	**42.9%**

Key: P = pathology present; A = total observed orbits.

Skeleton 20117 (Grave **20114**, young middle adult female) appeared to have suffered from *spondylolysis* (separation of the neural arch from the body of the vertebra) of the fifth lumbar vertebra (lower spine). In Skeleton 20957 (Grave **20955**, old middle adult male), either the second or third lumbar vertebra exhibited partial *spondylolysis*, which affected the left side. This condition affected 6.4% of the *Cataractonium* population, which is much higher than the Roman mean of 1.97% (recalculated from Roberts and Cox 2003, 152).

Two individuals at *Cataractonium* had lesions consistent with *osteochondritis dissecans* (OD) on the elbows (distal humeri). Skeleton 20813 displayed it on the left side and the right elbow of Skeleton 20116 (Grave **20114**, mature adult male) was similarly affected. Skeleton 20395 (Grave **20418**, young adult male) had a deep lesion on the right big toe, which was probably also *osteochondritis dissecans*.

Skeleton 20190 (Grave **20159**, unsexed adult) may have experienced a traumatic incident to their right ankle, resulting in soft tissue damage. Bony spicules were evident on the ankle and heel bones and the right tibia

Table 6.46: adult sinuses affected by sinusitis at Cataractonium.

Sex	Right Maxilla			Left Maxilla			Individuals		
	P	A	%	P	A	%	P	A	%
Males	1	5	20.0%	2	6	33.3%	2	6	33.3%
Females	0	1	0.0%	0	1	0.0%	0	1	0.0%
Unsexed	1	1	100.0%	1	1	100.0%	1	1	100.0%
Total	**2**	**7**	**28.6%**	**3**	**8**	**37.5%**	**3**	**8**	**37.5%**

Key: P = pathology present; A = total observed orbits.

Table 6.47: true prevalence rates of degenerative joint changes in the spine (vertebral bodies).

Sex	Age Group	Cervical Bodies			Thoracic Bodies			Lumbar Bodies			Sacral Bodies			Total Bodies		
		With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%
Male	YA	-	0	0.0%	2	4	50.0%	0	2	0.0%	0	1	0.0%	2	7	28.6%
	YMA	0	6	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	6	0.0%
	OMA	5	21	23.8%	19	24	79.2%	4	12	33.3%	0	2	0.0%	28	59	47.5%
	MA	4	7	57.1%	4	18	22.2%	0	2	0.0%	-	0	0.0%	8	27	29.6%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%	0	1	0.0%
	Total	**9**	**34**	**26.5%**	**25**	**46**	**54.3%**	**4**	**16**	**25.0%**	**0**	**4**	**0.0%**	**38**	**100**	**38.0%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	0	15	0.0%	-	0	0.0%	0	2	0.0%	-	0	0.0%	0	17	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**15**	**0.0%**	**-**	**0**	**0.0%**	**0**	**2**	**0.0%**	**-**	**0**	**0.0%**	**0**	**17**	**0.0%**
Unsexed	YA	0	5	0.0%	0	2	0.0%	-	0	0.0%	-	0	0.0%	0	7	0.0%
	YMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**5**	**0.0%**	**0**	**2**	**0.0%**	**-**	**0**	**0.0%**	**-**	**0**	**0.0%**	**0**	**7**	**0.0%**
Total	YA	0	5	0.0%	2	6	33.3%	0	2	0.0%	0	1	0.0%	2	14	14.3%
	YMA	0	21	0.0%	-	0	0.0%	0	2	0.0%	-	0	0.0%	0	23	0.0%
	OMA	5	21	23.8%	19	24	79.2%	4	12	33.3%	0	2	0.0%	28	59	47.5%
	MA	4	7	57.1%	4	18	22.2%	0	2	0.0%	-	0	0.0%	8	27	29.6%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%	0	1	0.0%
	Total	**9**	**54**	**16.7%**	**25**	**48**	**52.1%**	**4**	**18**	**22.2%**	**0**	**4**	**0.0%**	**38**	**124**	**30.6%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; DJC = degenerative joint changes.

(lower leg bone), around the margin of the capsular ligament. Further evidence of soft tissue/ligament damage was recorded in Skeleton 20573 and may have been associated with the fracture to their right ankle (see above).

Infectious disease

As previously discussed, one of the most common non-specific infections in past and modern populations is chronic sinusitis. Sinusitis was observed in three adults (Table 6.46) and one adolescent (Skeleton 20477, Grave **20476**) with sinuses.

Skeleton 20477, had been suffering from a possible pulmonary infection at the time of their death, with woven bone evident on the lung surface of the left second to eighth ribs.

Skeleton 20957 (Grave **20955**, old middle adult male) had lamellar bone on the inner surface of the back of the skull. The cause of these lesions was not clear.

Joint disease

Three individuals from *Cataractonium* exhibited degenerative changes in the spine, with degeneration in the cervical (neck region) and thoracic (central) spine observed in Skeleton 20116 (Grave **20114**, mature adult male), Skeleton 20416 (Grave **20417**, old middle adult male) and Skeleton 20573 (Grave **20571**, old middle adult male). Degenerative changes were also observed in the lumbar (lower) spine of Skeleton 20416. There were almost no preserved female vertebrae at *Cataractonium* and as such, degenerative disc disease was not observed in females. Tables 6.47 and 6.48 show that joint disease increased with age and was most common in the thoracic spine, with the neck and lower spine affected equally.

Other joints were also affected by degenerative changes, particularly both shoulders, hips and the right foot affected in Skeleton 20116. Both hips were affected by degenerative changes in Skeleton 20197 (Grave **20198**, adult female). Only the left hip was affected in Skeleton 20416. Both hips, the right ankle and left hand exhibited degenerative changes in Skeleton 20573. Finally, Skeleton 20813 (Grave **20812**, old middle adult indeterminate) was affected by degenerative changes in their left hip, an unsided hand phalanx and their left foot (Table 6.49).

Osteoarthritis (OA) was observed in the cervical (neck

Table 6.48: true prevalence rates of degenerative joint changes in the spine (articular facets).

Sex	Age Group	Cervical Facets			Thoracic Facets			Lumbar Facets			Sacral Facets			Total Facets		
		With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%
Male	YA	-	0	0.0%	0	3	0.0%	-	0	0.0%	-	0	0.0%	0	3	0.0%
	YMA	0	16	0.0%	0	4	0.0%	-	0	0.0%	-	0	0.0%	0	20	0.0%
	OMA	5	59	8.5%	4	98	4.1%	0	49	0.0%	0	4	0.0%	9	210	4.3%
	MA	0	6	0.0%	0	35	0.0%	0	2	0.0%	-	0	0.0%	0	43	0.0%
	A	0	1	0.0%	-	0	0.0%	0	4	0.0%	0	2	0.0%	0	7	0.0%
	Total	**5**	**82**	**6.1%**	**4**	**140**	**2.9%**	**0**	**55**	**0.0%**	**0**	**6**	**0.0%**	**9**	**283**	**3.2%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%	0	1	0.0%
	YMA	0	32	0.0%	-	0	0.0%	0	7	0.0%	0	1	0.0%	0	40	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**32**	**0.0%**	**-**	**0**	**0.0%**	**0**	**7**	**0.0%**	**0**	**2**	**0.0%**	**0**	**41**	**0.0%**
Unsexed	YA	0	5	0.0%	0	16	0.0%	0	17	0.0%	0	2	0.0%	0	40	0.0%
	YMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	OMA	-	0	0.0%	-	0	u	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**5**	**0.0%**	**0**	**16**	**0.0%**	**0**	**17**	**0.0%**	**0**	**2**	**0.0%**	**0**	**40**	**0.0%**
Total	YA	0	5	0.0%	0	19	0.0%	0	17	0.0%	0	3	0.0%	0	44	0.0%
	YMA	0	48	0.0%	0	4	0.0%	0	7	0.0%	0	1	0.0%	0	60	0.0%
	OMA	5	59	8.5%	4	98	4.1%	0	49	0.0%	0	4	0.0%	9	210	4.3%
	MA	0	6	0.0%	0	35	0.0%	0	2	0.0%	-	0	0.0%	0	43	0.0%
	A	0	1	0.0%	-	0	0.0%	0	4	0.0%	0	2	0.0%	0	7	0.0%
	Total	**5**	**119**	**4.2%**	**4**	**156**	**2.6%**	**0**	**79**	**0.0%**	**0**	**10**	**0.0%**	**9**	**364**	**2.5%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; DJC = degenerative joint changes.

Table 6.49: true prevalence rates of degenerative joint changes in joints other than the spine.

Joint	Bone	Male			Female			Unsexed			Total		
		With DJC	N	%	With DJC	N	%	With DJC	N	%	With DJC	N	%
Jaw	TMJ	1	11	9.1%	0	5	0.0%	0	2	0.0%	1	18	5.6%
	Mandible	0	6	0.0%	0	3	0.0%	0	1	0.0%	0	10	0.0%
Manubrio-clavicular	Manubrium	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	M clavicle	0	4	0.0%	0	1	0.0%	-	0	0.0%	0	5	0.0%
Shoulder	L clavicle	1	1	100.0%	-	0	0.0%	-	0	0.0%	1	1	100.0%
	Glenoid	1	11	9.1%	0	3	0.0%	0	2	0.0%	1	16	6.3%
	P humerus	1	13	7.7%	0	4	0.0%	0	1	0.0%	1	18	5.6%
Elbow	D humerus	0	12	0.0%	0	3	0.0%	0	1	0.0%	0	16	0.0%
	P radius	0	10	0.0%	0	3	0.0%	0	2	0.0%	0	15	0.0%
	P ulna	0	12	0.0%	0	3	0.0%	0	1	0.0%	0	16	0.0%
Wrist	D radius	0	10	0.0%	0	3	0.0%	0	1	0.0%	0	14	0.0%
	D ulna	0	4	0.0%	-	0	0.0%	-	0	0.0%	0	4	0.0%
	Scaphoid	0	3	0.0%	-	0	0.0%	0	1	0.0%	0	4	0.0%
	Lunate	0	3	0.0%	-	0	0.0%	-	0	0.0%	0	3	0.0%
Hand		0	44	0.0%	0	4	0.0%	0	12	0.0%	0	60	0.0%
Fingers		1	130	0.8%	0	3	0.0%	0	35	0.0%	1	168	0.6%
Hip	Acetabulum	1	14	7.1%	2	6	33.3%	0	2	0.0%	3	22	13.6%
	P femur	6	13	46.2%	2	8	25.0%	0	3	0.0%	8	24	33.3%
Knee	D femur	0	13	0.0%	0	9	0.0%	0	2	0.0%	0	24	0.0%
	Patella	0	10	0.0%	0	5	0.0%	0	1	0.0%	0	16	0.0%
	P tibia	0	13	0.0%	0	10	0.0%	0	2	0.0%	0	25	0.0%
Ankle	D fibula	0	11	0.0%	0	3	0.0%	0	2	0.0%	0	16	0.0%
	D tibia	0	13	0.0%	0	4	0.0%	0	2	0.0%	0	19	0.0%
	Talus	0	13	0.0%	0	6	0.0%	0	2	0.0%	0	21	0.0%
Foot		1	111	0.9%	0	37	0.0%	0	15	0.0%	1	163	0.6%
Toes		4	80	5.0%	0	12	0.0%	0	20	0.0%	4	112	3.6%

Table 6.50: true prevalence rates of osteoarthritis in the spine.

Sex	Age Group	Cervical Facets			Thoracic Facets			Lumbar Facets			Sacral Facets			Total Facets		
		With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%
Male	YA	-	0	0.00%	0	3	0.00%	-	0	0.00%	-	0	0.00%	0	3	0.00%
	YMA	0	16	0.00%	0	4	0.00%	-	0	0.00%	-	0	0.00%	0	20	0.00%
	OMA	0	59	0.00%	2	98	2.00%	0	49	0.00%	0	4	0.00%	2	210	1.00%
	MA	0	6	0.00%	2	35	5.70%	0	2	0.00%	-	0	0.00%	2	43	4.70%
	A	0	1	0.00%	-	0	0.00%	0	4	0.00%	0	2	0.00%	0	7	0.00%
	Total	**0**	**82**	**0.00%**	**4**	**140**	**2.90%**	**0**	**55**	**0.00%**	**0**	**6**	**0.00%**	**4**	**283**	**1.40%**
Female	YA	-	0	0.00%	-	0	0.00%	-	0	0.00%	0	1	0.00%	0	1	0.00%
	YMA	0	32	0.00%	-	0	0.00%	0	7	0.00%	0	1	0.00%	0	40	0.00%
	OMA	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	MA	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	A	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	Total	**0**	**32**	**0.00%**	**-**	**0**	**0.00%**	**0**	**7**	**0.00%**	**0**	**2**	**0.00%**	**0**	**41**	**0.00%**
Unsexed	YA	0	5	0.00%	0	16	0.00%	0	17	0.00%	0	2	0.00%	0	40	0.00%
	YMA	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	OMA	-	0	0.00%	-	0	u	-	0	0.00%	-	0	0.00%	-	0	0.00%
	MA	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	A	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%	-	0	0.00%
	Total	**0**	**5**	**0.00%**	**0**	**16**	**0.00%**	**0**	**17**	**0.00%**	**0**	**2**	**0.00%**	**0**	**40**	**0.00%**
Total	YA	0	5	0.00%	0	19	0.00%	0	17	0.00%	0	3	0.00%	0	44	0.00%
	YMA	0	48	0.00%	0	4	0.00%	0	7	0.00%	0	1	0.00%	0	60	0.00%
	OMA	0	59	0.00%	2	98	2.00%	0	49	0.00%	0	4	0.00%	2	210	1.00%
	MA	0	6	0.00%	2	35	5.70%	0	2	0.00%	-	0	0.00%	2	43	4.70%
	A	0	1	0.00%	-	0	0.00%	0	4	0.00%	0	2	0.00%	0	7	0.00%
	Total	**0**	**119**	**0.00%**	**4**	**156**	**2.60%**	**0**	**79**	**0.00%**	**0**	**10**	**0.00%**	**4**	**364**	**1.10%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; OA = osteoarthritis.

region), thoracic (chest) and lumbar (lower) spine of Skeleton 20116. In Skeleton 20573, OA was observed in the thoracic vertebrae and right hip (Tables 6.50 and 6.51).

Only two skeletons from *Cataractonium* had Schmorl's nodes, likely due to the poor preservation of the skeletons (Table 6.52).

Neoplastic conditions

Ivory osteomas are small dense round nodules of bone that appear as smooth lumps on the external surface of the skull (Roberts and Manchester 2005, 255). These are benign lesions and cause no symptoms (*ibid.*). Skeleton 20721 (Grave **20662**, mature adult male) had two small button osteomas on the left side of the skull (5.9% of individuals with skulls).

Miscellaneous pathology

Several lesions were observed in the *Cataractonium* skeletons that either did not fit into the categories discussed above or were ambiguous in terms of what had caused them.

Skeleton 20957 (Grave **20955**, old middle adult male) had an enigmatic lesion on the right lower jaw and may have been the result of trauma or have been associated with the attachment of the *buccinator* muscle.

Skeleton 20416 (Grave **20417**, old middle adult male) had small lesions on the bodies of the first and second thoracic vertebrae, which may have been the result of disc herniations or avulsion of the annular rings.

A spherical lesion was present on the left thigh bone of Skeleton 20957 and may have been associated with trauma to the *gastrocnemius*, a muscle that is involved in flexing the leg at the knee and plantar flexing the foot (Stone and Stone 1990, 184).

Skeleton 20585 (Grave **20532**, young middle adult female) had a gap in part of a neck vertebra. It is possible that this was caused by pressure of the vertebral artery, or alternatively, may have been filled by ligamentous tissue.

Table 6.51: true prevalence rates of osteoarthritis in joints other than the spine.

Joint	Bone	Male			Female			Unsexed			Total		
		With OA	N	%	With OA	N	%	With OA	N	%	With OA	N	%
Jaw	TMJ	0	11	0.0%	0	5	0.0%	0	2	0.0%	0	18	0.0%
	Mandible	0	6	0.0%	0	3	0.0%	0	1	0.0%	0	10	0.0%
Manubrio-clavicular	Manubrium	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	M clavicle	0	4	0.0%	0	1	0.0%	-	0	0.0%	0	5	0.0%
Shoulder	L clavicle	0	1	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%
	Glenoid	0	11	0.0%	0	3	0.0%	0	2	0.0%	0	16	0.0%
	P humerus	0	13	0.0%	0	4	0.0%	0	1	0.0%	0	18	0.0%
Elbow	D humerus	0	12	0.0%	0	3	0.0%	0	1	0.0%	0	16	0.0%
	P radius	0	10	0.0%	0	3	0.0%	0	2	0.0%	0	15	0.0%
	P ulna	0	12	0.0%	0	3	0.0%	0	1	0.0%	0	16	0.0%
Wrist	D radius	0	10	0.0%	0	3	0.0%	0	1	0.0%	0	14	0.0%
	D ulna	0	4	0.0%	-	0	0.0%	-	0	0.0%	0	4	0.0%
	Scaphoid	0	3	0.0%	-	0	0.0%	0	1	0.0%	0	4	0.0%
	Lunate	0	3	0.0%	-	0	0.0%	-	0	0.0%	0	3	0.0%
Hand		0	44	0.0%	0	4	0.0%	0	12	0.0%	0	60	0.0%
Fingers		2	130	1.5%	0	3	0.0%	0	35	0.0%	2	168	1.2%
Hip	Acetabulum	3	14	21.4%	0	6	0.0%	0	2	0.0%	3	22	13.6%
	P femur	1	13	7.7%	0	8	0.0%	0	3	0.0%	1	24	4.2%
Knee	D femur	0	13	0.0%	0	9	0.0%	0	2	0.0%	0	24	0.0%
	Patella	0	10	0.0%	0	5	0.0%	0	1	0.0%	0	16	0.0%
	P tibia	0	13	0.0%	0	10	0.0%	0	2	0.0%	0	25	0.0%
Ankle	D fibula	0	11	0.0%	0	3	0.0%	0	2	0.0%	0	16	0.0%
	D tibia	0	13	0.0%	0	4	0.0%	0	2	0.0%	0	19	0.0%
	Talus	0	13	0.0%	0	6	0.0%	0	2	0.0%	0	21	0.0%
Foot		0	111	0.0%	0	37	0.0%	0	15	0.0%	0	163	0.0%
Toes		0	80	0.0%	0	12	0.0%	0	20	0.0%	0	112	0.0%

Dental health

A total of 17 adults with jaws had 321 permanent teeth and 254 tooth positions between them (Table 6.53), while six non-adults had a total of eleven tooth positions (eight for deciduous teeth and three for permanent teeth), 32 deciduous teeth and 55 permanent teeth. Only the permanent teeth from articulated skeletons are included in the tables and graphs.

In the disarticulated assemblage from Brompton East, a deciduous tooth and three tooth positions were recorded. Excavations at Fort Bridge also produced sixteen disarticulated tooth positions and teeth from context **18761** and four deciduous teeth and tooth positions for Skeleton 18026 (Grave **18024**, perinate). These teeth and tooth positions are not included in the tables and figures.

A total of 175 permanent teeth, from the articulated skeletons, were affected by calculus (Table 6.54), of which slightly more male teeth (63%) were affected than female teeth (41.1%). This may suggest differences in diet or different standards of dental hygiene between the sexes. Of the deciduous teeth, 10.0% were affected by calculus, compared to 54.5% of permanent teeth, suggesting calculus deposits increased with age. Two disarticulated permanent teeth from context **20384** belonging to an adult also exhibited flecks of calculus.

Six adults (35.3% of individuals with tooth positions) from *Cataractonium* suffered from periodontitis, including four males (two mature adults and two old middle adults), a young middle adult female and a young adult of indeterminate sex.

Nineteen permanent teeth from the articulated skeletons were affected by caries, which affected female teeth (6.5%) and male teeth (6.4%) to the same extent. Overall, 5.9% of permanent teeth were affected by caries, while none of the deciduous teeth were affected (Table 6.55 and Fig. 6.36). It is likely that the reason for this was partly the small number of deciduous teeth present and also the short time these are in the mouth before being shed. One disarticulated deciduous tooth from context **20820**, belonging to a young juvenile, also exhibited a carious lesion.

Table 6.52: true prevalence rates of Schmorl's nodes.

Sex	Age Group	Cervical Bodies			Thoracic Bodies			Lumbar Bodies			Sacral Bodies			Total Bodies		
		With SN	N	%	With SN	N	%	With SN	N	%	With SN	N	%	With SN	N	%
Male	YA	-	0	0.0%	0	4	0.0%	0	2	0.0%	0	1	0.0%	0	7	0.0%
	YMA	0	6	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	6	0.0%
	OMA	0	21	0.0%	8	24	33.3%	0	12	0.0%	0	2	0.0%	8	59	13.6%
	MA	0	7	0.0%	4	18	22.2%	0	2	0.0%	-	0	0.0%	4	27	14.8%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%	0	1	0.0%
	Total	**0**	**34**	**0.0%**	**12**	**46**	**26.1%**	**0**	**16**	**0.0%**	**0**	**4**	**0.0%**	**12**	**100**	**12.0%**
Female	YA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	YMA	0	15	0.0%	-	0	0.0%	0	2	0.0%	-	0	0.0%	0	17	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**15**	**0.0%**	**-**	**0**	**0.0%**	**0**	**2**	**0.0%**	**-**	**0**	**0.0%**	**0**	**17**	**0.0%**
Unsexed	YA	0	5	0.0%	0	2	0.0%	-	0	0.0%	-	0	0.0%	0	7	0.0%
	YMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	OMA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	MA	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%	-	0	0.0%
	Total	**0**	**5**	**0.0%**	**0**	**2**	**0.0%**	**-**	**0**	**0.0%**	**-**	**0**	**0.0%**	**0**	**7**	**0.0%**
Total	YA	0	5	0.0%	0	6	0.0%	0	2	0.0%	0	1	0.0%	0	14	0.0%
	YMA	0	21	0.0%	-	0	0.0%	0	2	0.0%	-	0	0.0%	0	23	0.0%
	OMA	0	21	0.0%	8	24	33.3%	0	12	0.0%	0	2	0.0%	8	59	13.6%
	MA	0	7	0.0%	4	18	22.2%	0	2	0.0%	-	0	0.0%	4	27	14.8%
	A	-	0	0.0%	-	0	0.0%	-	0	0.0%	0	1	0.0%	0	1	0.0%
	Total	**0**	**54**	**0.0%**	**12**	**48**	**25.0%**	**0**	**18**	**0.0%**	**0**	**4**	**0.0%**	**12**	**124**	**9.7%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number; SN = Schmorl's nodes.

Table 6.53: age and sex distribution of adults with teeth from Cataractonium.

Age Group	Male		Female		Unsexed		Total	
	N	%	N	%	N	%	N	%
YA	1	11.1%	1	16.7%	1	50.0%	3	17.6%
YMA	1	11.1%	2	33.3%	0	0.0%	3	17.6%
OMA	4	44.4%	0	0.0%	0	0.0%	4	23.5%
MA	2	22.2%	0	0.0%	0	0.0%	2	11.8%
A	1	11.1%	3	50.0%	1	50.0%	5	29.4%
Total	**9**		**6**		**2**		**17**	

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); N = number.

Table 6.54: age and sex distribution of adult teeth with calculus at Cataractonium.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	Calc	Total	%	Calc	Total	%	Calc	Total	%	Calc	Total	%
YA	4	4	100.0%	1	31	3.2%	22	30	73.3%	27	65	41.5%
YMA	22	31	71.0%	30	53	56.6%	0	0	0.0%	52	84	61.9%
OMA	75	104	72.1%	0	0	0.0%	0	0	0.0%	75	104	72.1%
MA	8	20	40.0%	0	0	0.0%	0	0	0.0%	8	20	40.0%
A	0	14	0.0%	13	23	56.5%	0	11	0.0%	13	48	27.1%
Total	**109**	**173**	**63.0%**	**44**	**107**	**41.1%**	**22**	**41**	**53.7%**	**175**	**321**	**54.5%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); Calc = calculus.

Table 6.55: age and sex distribution of adult teeth with cavities at Cataractonium.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	Caries	Total	%	Caries	Total	%	Caries	Total	%	Caries	Total	%
YA	0	4	0.0%	0	31	0.0%	0	30	0.0%	0	65	0.0%
YMA	1	31	3.2%	7	53	13.2%	0	0	0.0%	8	84	9.5%
OMA	4	104	3.8%	0	0	0.0%	0	0	0.0%	4	104	3.8%
MA	2	20	10.0%	0	0	0.0%	0	0	0.0%	2	20	10.0%
A	4	14	28.6%	0	23	0.0%	1	11	9.1%	5	48	10.4%
Total	**11**	**173**	**6.4%**	**7**	**107**	**6.5%**	**1**	**41**	**2.4%**	**19**	**321**	**5.9%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

Table 6.56: age and sex distribution of adult tooth positions with abscesses.

Age Group	Male Tooth Positions			Female Tooth Positions			Unsexed Tooth Positions			Total Tooth Positions		
	Abscess	Total	%	Abscess	Total	%	Abscess	Total	%	Abscess	Total	%
YA	0	2	0.0%	0	10	0.0%	0	32	0.0%	0	44	0.0%
YMA	0	19	0.0%	0	43	0.0%	0	0	0.0%	0	62	0.0%
OMA	2	95	2.1%	0	0	0.0%	0	0	0.0%	2	95	2.1%
MA	1	25	4.0%	0	0	0.0%	0	0	0.0%	1	25	4.0%
A	1	27	3.7%	0	0	0.0%	1	1	100.0%	2	28	7.1%
Total	**4**	**168**	**2.4%**	**0**	**53**	**0.0%**	**1**	**33**	**3.0%**	**5**	**254**	**2.0%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

Only permanent tooth positions (1.6%) were affected by abscesses, other than a disarticulated juvenile maxilla from context **8153**. The other abscesses all belonged to males (2.4% of male tooth positions; Table 6.56 and Fig. 6.37). This is perhaps surprising, considering that males and females had the same frequency of caries and may suggest that factors other than caries contributed to the cause of abscesses in the population at *Cataractonium*.

Seven of the adults had experienced ante-mortem tooth loss (AMTL) and the condition affected male teeth slightly more frequently (13.1% of male tooth positions) than female teeth (9.4 % of female tooth positions; Table 6.57 and Fig. 6.38). Notably, AMTL only occurred in older males, while in the case of females, individuals were younger, suggesting that the condition was probably related to the high incidence of cavities in the young middle adult females with cavities and the age-related increase of cavities in males.

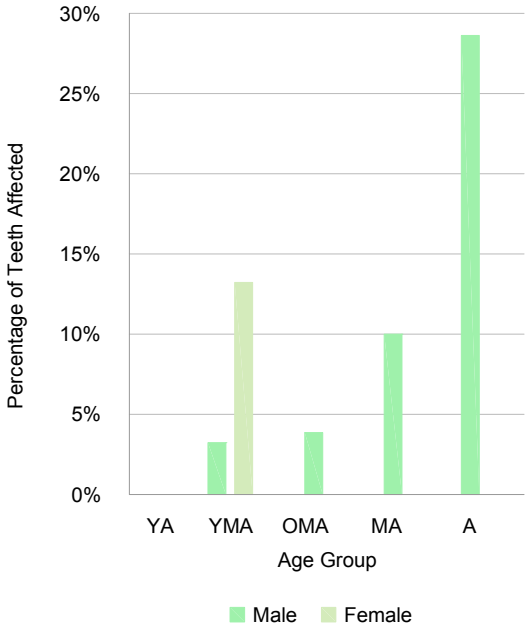


Figure 6.36: age and sex distribution of adult teeth with cavities at Cataractonium.

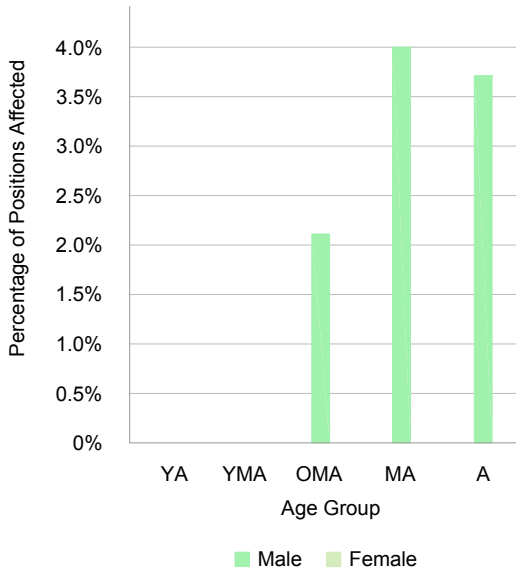


Figure 6.37: age and sex distribution of adult tooth positions with abscesses at Cataractonium.

Table 6.57: age and sex distribution of adult tooth positions with ante-mortem tooth loss.

Age Group	Male Tooth Positions			Female Tooth Positions			Unsexed Tooth Positions			Total Tooth Positions		
	AMTL	Total	%	AMTL	Total	%	AMTL	Total	%	AMTL	Total	%
YA	0	2	0.0%	0	10	0.0%	0	32	0.0%	0	44	0.0%
YMA	0	19	0.0%	5	43	11.6%	0	0	0.0%	5	62	8.1%
OMA	4	95	4.2%	0	0	0.0%	0	0	0.0%	4	95	4.2%
MA	10	25	40.0%	0	0	0.0%	0	0	0.0%	10	25	40.0%
A	8	27	29.6%	0	0	0.0%	0	1	0.0%	8	28	28.6%
Total	**22**	**168**	**13.1%**	**5**	**53**	**9.4%**	**0**	**33**	**0.0%**	**27**	**254**	**10.6%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); AMTL = ante-mortem tooth loss.

Table 6.58: age and sex distribution of adult teeth with DEH.

Age Group	Male Teeth			Female Teeth			Unsexed Teeth			Total Teeth		
	DEH	Total	%	DEH	Total	%	DEH	Total	%	DEH	Total	%
YA	0	4	0.0%	20	31	64.5%	0	30	0.0%	20	65	30.8%
YMA	18	31	58.1%	29	53	54.7%	0	0	0.0%	47	84	56.0%
OMA	5	104	4.8%	0	0	0.0%	0	0	0.0%	5	104	4.8%
MA	0	20	0.0%	0	0	0.0%	0	0	0.0%	0	20	0.0%
A	0	14	0.0%	5	23	21.7%	0	11	0.0%	5	48	10.4%
Total	**23**	**173**	**13.3%**	**54**	**107**	**50.5%**	**0**	**41**	**0.0%**	**77**	**321**	**24.0%**

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); DEH = dental enamel hypoplasia.

Dental enamel hypoplasia (DEH) was identified on the surfaces of 101 permanent teeth (27.5%) and was considerably more likely to affect females (50.5% of teeth) than males (13.3% of teeth; see Table 6.58 and Fig. 6.39). The permanent teeth of the non-adults (56.1% of teeth) were more likely to be affected than those of the adults (24.0% of teeth), suggesting that non-adults with DEH were less likely to survive into adulthood. Ten permanent teeth from the disarticulated assemblage in context **20692** were also affected by DEH, eight of which belonged to adults and another two were young juvenile unerupted permanent crowns. Finally, a deciduous crown from disarticulated remains in context **20829** had a series of pits across its surface, which was thought to be an indicator of DEH.

Since systematic radiographs were not taken of all the jaws from *Cataractonium*, teeth that were absent from

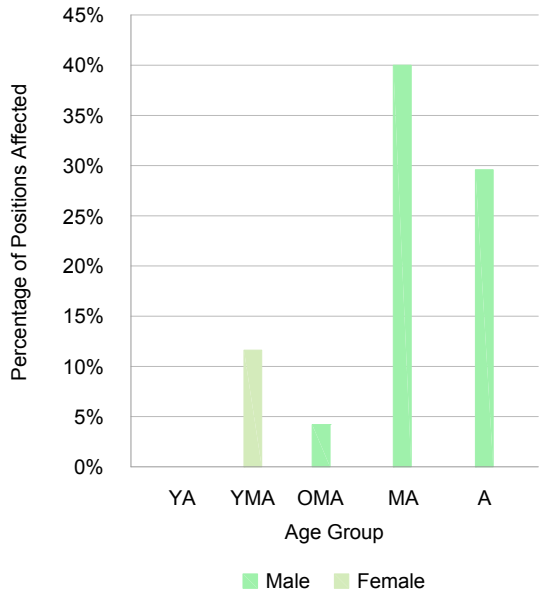


Figure 6.38: age and sex distribution of adult tooth positions with ante-mortem tooth loss at Cataractonium.

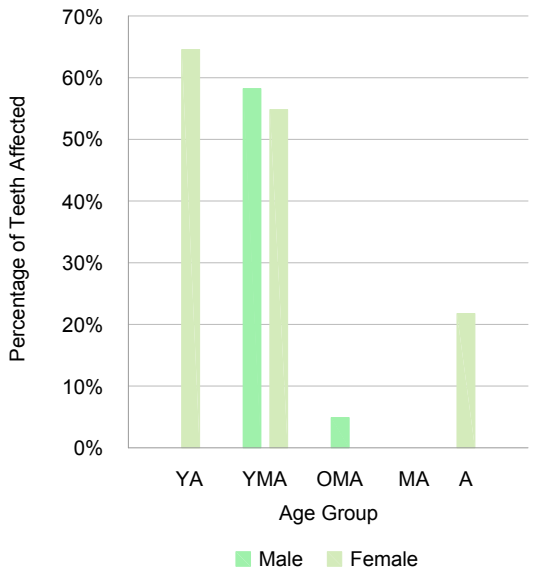


Figure 6.39: age and sex distribution of adult teeth with DEH at Cataractonium.

the erupted dentition were recorded as 'not present/unerupted' unless there was definite evidence for impaction.

Skeleton 20813 (Grave **20812**, old middle adult indeterminate) had four impacted teeth, which were visible as a result of post-mortem damage. The permanent right canine in the upper jaw had also failed to erupt, with the crown evident in the roof of the maxilla. Finally, the individual's left lower second premolar was also impacted. A further four adults (three male and one female) had a total of eight teeth which had failed to erupt, all of which were third molars (3.3% of adult tooth positions).

Four of the adults (three males and one female) exhibited tiny chips on the chewing surfaces across a total of 25 teeth. Overall, small enamel chips were observed in 4.7% of adult teeth.

Skeleton 20416 (Grave **20417**, old middle adult male) had a broken left upper first premolar (0.3% of adult teeth) and all that remained was the root. The molars and premolars are more likely to be injured when the lower jaw is forced against the upper jaw (e.g. following a fall onto, or a blow delivered to, the underside of the chin; Glendor *et al*. 2007, 235). Damage to the teeth without damage to the surrounding tissues is more common with high velocity impacts, and sharp objects are more likely to cause crown fractures with minimal tooth displacement (*ibid*., 235–6).

Disarticulated human remains

An assemblage of disarticulated human bone was also recovered from Roman contexts at Brough Park (Field 172), Catterick Racecourse (Field 174), Thornborough Farm (Field 175), Fort Bridge (Field 176FB), Agricola Bridge (Field 176EC), Brompton West (Field 177/178) and Brompton East (Field 179). In total, 502 fragments of disarticulated human bone and six small deposits of burnt bone were recovered from a total of 78 different contexts during the excavations at *Cataractonium*, representing a huge range of features and deposits (see Appendix E). The largest assemblages derived from context **1405** (a layer of disarticulated bone) and **20692** (the backfill of Grave **20621**, which was under a capped stone).

The minimum number of individuals represented by the disarticulated bone from *Cataractonium* was seven foetuses/perinates/neonates (based on right femora), two juveniles (based on right temporal bones), one adolescent (based on an acetabulum and a temporal bone) and two adults (based on right distal femora). A total of 130 of the 502 (25.9%) fragments of bone belonged to non-adults and 30% of these were foetuses, perinates or neonates. For the most part, it was not possible to assess age in the adults more accurately than to suggest that they were aged 18 years or older. Three bones belonged to young (18–25 years) or young middle adults (26–35 years) and one to an old middle adult (36–45 years). Sex could only be assessed in three bones, all of which belonged to possible males.

Osteoarthritis was noted in one left ulna from context **1405**, inflammatory lesions in three bones (a right humerus from Fort Bridge (Field 176FB) context **18238**; a right tibia and a right fibula from Agricola Bridge (Field 176EC) contexts **1480** and **1614** respectively). *Cribra orbitalia*, indicative of childhood stress, was noted in a skull from context **20564**.

There were a total of nine deciduous teeth and 30 permanent teeth. Two dental abscesses were observed, as well as four teeth with cavities (10.2%), 14 teeth (35.9%) with dental plaque concretions and 17 teeth (43.6%) with dental enamel hypoplasia stress lines.

Cremation burials

Nine cremation burials were excavated from three phases of *Cataractonium*, which dated from the 2nd to the early 4th centuries AD (Table 6.59). The earliest cremation burial, recovered from Brompton West, was urned (Grave **20400**) and dated to the early 2nd century. Six of the nine cremation burials dated to the late 2nd and early 3rd centuries and were excavated at Brough Park. This lies to the south of *Cataractonium* and was situated in the vicinity of a road that served the southern gate of the fort. The six cremation burials included one possible *bustum*, as well as two urned and two unurned cremation burials. It has been suggested that they may be associated with the military. Three of the Brough Park cremation burials contained charcoal, and one burial and the possible *bustum* also contained artefacts that had been included on the pyre. The final two cremation burials comprised a 3rd-century urned cremation (Grave **18207**) that was recovered from an urban context at Fort Bridge, and a late 3rd- to 4th-century high status cremation burial, which included the remains of a funerary bed, was excavated at Brompton West.

The cremated assemblages were either well preserved (55.5%) or in excellent condition (44.5%), but burial in an urn did not appear to result in better preservation, as previous studies have found (Thompson *et al*. 2016, 834).

Bone weight varied from 150g to 6,532.7g, with a mean weight of 1,124.9g. However, the heaviest assemblage contained several skeletons. Excluding the multiple burial, the mean weight was 448.9g. In 130 Roman cremation burials from Yorkshire analysed by the authors, weight ranged from 0.1g to 1,604g, with a mean of 174.4g (see Table 6.3 for site summary and references),

Table 6.59: summary of cremation burials from Cataractonium organised by phase.

Field	Grave No.	Cremation Deposit	Feature Type	Urned	Date (cal AD)	Bone Colour	Preservation	Weight (g)	% of Expected Bone Quantity†	Max. Fragment	MNI	Age	Sex	Notes
177/178	20400	20405	Pit	Y	74–234 (95.4%)	White and grey	Good	257.1	15.8	42.6	1	A	-	Urned cremation in a back plot
172	6729	6730 (Burial 1)	Cremation pit	N	132–333 (95.4%)	White/blue grey/black	Good	314.5	19.3	30.5	1	A?	-	Unurned cremation
172	6723	6724-6 (Burial 2)	Cremation pit	N	135–345 (95.4%)	White, some grey internal surfaces	Excellent	1390.7	85.5	54.7	1	A	-	Unurned cremation
172	6783	6784 (Burial 4)	Cremation pit	Y	53–225 (95.4%)	White/blue grey/dark grey	Good	435.1	26.8	42.3	1	A	-	Urned cremation
172	6785	6795 (Burial 5)	Cremation pit	Y	123–259 (85.9%), 281–324 (8.0%), 89–102 (1.5%)	White to grey/ black	Very good	532	-	37	2	I and YJ	-	Urned cremation
172	6782	6781 (Burial 3)	Possible bustum burial	Y	-	White/blue grey/dark grey	Good	150	-	33.1	1	J	-	Possible bustum
172	6790	6791-25005 (Burial 6)	Bustum	N	126–264 (82.0%), 275–330 (13.4%)	White to black, context (6791) some black to unburnt, (25004)AB and (25004)AF generally black	(25004) and (25005) Excellent, (25003), (6792), (6791), (25007) and (25009) Good	6532.7	-	96.1	5	3xA, 1YJ, 1OJ	1 poss female	Bustum
176FB	18207	18208	Pit	Y	71–232 (95.4%)	White, grey and black	Excellent	335.5	20.6	34.3	1	YMA	-	Urned cremation in domestic context
177/178	20106	20107/9	Pit	N	-	White, greyish and black	Good	176.3	-	13.9	1	AD	-	High status cremation with funeral bed

† Weight of bone is expressed as a percentage of average weight of bone recovered from modern cremation burials (1,625.9g, McKinley 1993). However, this cannot be calculated for non-adults or multiple burials, which have been left blank. Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); F = Foetus (up to 40 weeks in utero); N = Neonate (Birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years).

Table 6.60: summary of cremated bone fragment size from Cataractonium.

Field	Grave No.	10mm (g)	10mm (%)	5mm (g)	5mm (%)	2mm (g)	2mm (%)	<2mm	Weight (g)
177/178	20400	125.2	48.7	94.8	36.9	30.3	11.8	6.8	257.1
172	6729	42.4	13.5	179	56.9	88	28	5.1	314,5
172	6723	488.9	35.2	608.9	43.8	285.7	20.5	7.2	1390.7
172	6782	26	17.3	72.9	48.6	47.8	31.9	3.3	150
172	6783	164.9	37.9	199.1	45.8	67.5	15.5	3.6	435.1
172	6785	122.6	23	215.6	40.5	189.5	35.6	4.3	532
172	6790	2858.1	43.8	2241.7	34.3	1212.6	18.6	219.85	6532.25
176FB	18207	219.3	65.4	52.1	15.5	40.6	12.1	23.5	335.5
177/178	20106	21.4	13.3	101.2	62.8	36.9	22.9	1.7	161.2

which is considerably lower than the mean weight of bone at *Cataractonium*. The weights recovered represent between 15.8% to 85.5% of the expected quantity of cremated bone produced by modern crematoria (mean of 1,625.9g; McKinley 1993). However, it was not possible to assess this for four (44.4%) of the burials, since they either contained more than one individual or non-adults, whose expected cremated bone weight is more difficult to assess. Warren and Maples (1997) suggest that children's bones weigh approximately 2.5% of their original body weight following cremation. No pattern as to age and weight of bone was observed at *Cataractonium* and the mean bone weight was unusually high compared with other cemeteries. However, at Healam Bridge, the mean weight was most similar to *Cataractonium* (341.31g; Holst and Keefe 2017).

The maximum fragment size ranged from 13.9mm to 96.1mm, with a mean of 42.7mm. At Driffield Terrace, the cremated mean maximum bone length was similar to *Cataractonium* (49.9mm).

The largest quantity of bone was derived from the 5mm sieve in six of the burials, with a mean of 42.8% of bone being recovered from this category (Table 6.60). In three of the burials, including the *bustum*, the bone fragment size was generally larger and mostly derived from the 10mm sieve, with a mean of 33.1% of bone recovered from this category. Only an average of 21.9% of bone fragments were derived from the 2mm sieve category.

The average bone fragment size is similar to Driffield Terrace, where 40% of bone was recovered from the 10mm sieve and 45.6% in the 5mm sieve category (Caffell and Holst 2012b).

The bone colour varied considerably in the *Cataractonium* burials. In two burials (22.2%; Graves **20400** and **6723**), the bone was white and grey. However, the remaining bone assemblages (87.8%) showed considerable colour variation, including white, grey, blue and black, suggesting that either the pyres had not been well tended, or that insufficient temperatures or burning time meant that not all the bone was fully calcined (McKinley 2004c). The significant colour variation seen at *Cataractonium* is similar to that observed in many northern English Roman military cremation cemeteries, where it has been suggested that cremation was undertaken by professionals and was relatively prescriptive, and the pyre was left untended, leading to greater variation in colour (Thompson *et al.* 2016, 834).

Between 57.2% and 78.5% of bone was identifiable within each assemblage, with an average of 68.4% (Table 6.61). Generic long bone shaft and skull fragments were the most commonly identified bone elements (on average 20.9% of the identifiable bone in the assemblages), followed by axial fragments (11.9%), lower limb (11.2%) and upper limb (10.2%).

When comparing the *bustum* with the cremation burials, it was clear that the figures for each skeletal element were not significantly different other than skull fragments, which were considerably better represented in the *bustum* (on average 26.9% of identifiable elements) compared with the burials (on average 13.8% of identifiable elements). All other bone element categories other than generic long bone fragments were slightly less well presented in the *bustum*.

Grave **6785** contained two individuals of different ages, an infant and a young juvenile. The *bustum* burial (Grave **6790**) contained elements from at least five individuals, three adults, one younger juvenile and an older juvenile. A single individual had been cremated in it and was interred in the *bustum*, while further individuals had been buried on top of this. Assuming single burials for the remainder of the cremation burials, this suggests that at least fourteen individuals were represented in the cremated bone assemblages from *Cataractonium*.

It was not possible to identify sex in the cremated bone assemblages other than one possible female in the *bustum* burial (Grave **6790**). Age estimation was possible in all the burials, which included seven adults, as well as a young middle adult (aged 26–35 years; 57.1%),

Table 6.61: summary of identifiable elements in the Cataractonium cremation burials.

Field	Grave No.	Skull (g)	Skull (%)	Axial (g)	Axial (%)	UL (g)	UL (%)	LL (g)	LL (%)	UIL (g)	UIL (%)	Total ID (g)	Total ID (%)	Total UID (g)	Total UID (%)
177/178	20400	49.7	19.3	30.6	11.9	55	21.4	54.9	21.4	10.7	4.2	200.9	78.1	56.2	21.9
172	6729	54.5	17.3	19.2	6.1	31.8	10.1	46.8	14.9	73.2	23.3	225.5	71.7	89	28.3
172	6723	208.8	15	90.6	6.5	171.8	12.4	103.6	7.4	394.7	28.4	969.5	69.7	421.2	30.3
172	6782	79	52.7	6.2	4.1	6.7	4.5	5.5	3.7	20.4	13.6	117.8	78.5	32.2	21.5
172	6783	106.7	24.5	84.6	19.4	33.8	7.8	34.6	8	43.9	10.1	303.6	69.8	131.5	30.2
172	6785	19.4	3.6	28	5.3	12.9	2.4	33.6	6.3	227.2	42.7	321.1	60.4	210.9	39.6
172	6790	863.5	13.2	766.1	11.7	595.6	9.1	704.4	10.8	1216.1	18.6	4145.7	63.5	2386.55	36.5
176FB	18207	11.7	5.3	69.4	31.1	39.4	17.6	57.3	25.6	45.7	20.4	223.5	66.6	112	33.4
177/178	20106	20.5	12.7	12	7.4	11.7	7.3	3.8	2.4	44.2	27.4	92.2	57.2	69	42.8

Key: UL = upper limb; LL = lower limb; UIL = unidentified long bone.

one adolescent (aged 13–25 years; 7.1%), four juveniles (aged 1–12 years; 28.6%) and one infant (aged 3 months to 1 year; 7.1%). Therefore, just over half of the cremated population were adults.

BURIALS AT OTHER SITES

There were three other areas within the A1 scheme in which human remains were recovered, namely Low Street, Scurragh House and Scotch Corner. Each of these will be discussed in this section and consist of a total of nine inhumations, four cremation burials and 59 fragments of disarticulated human bone, ranging in date from the Roman to early medieval periods. A summary of the inhumation burials can be found in Table 6.62.

LOW STREET (FIELD 261)

Grave 7181

Only one grave was identified during the excavations at Low Street, an inhumation dating to the 3rd century AD (Table 6.62). The grave cut was inserted into an enclosure ditch and the skeleton was interred in an unusual tightly crouched position on its front. It was 80% complete and moderately fragmented, with good surface preservation. The minimum number of individuals from this site was one.

Skeleton 7182 was 26–35 years of age (young middle adult) and was likely male. Despite fragmentation of the cranium, a few morphological characteristics of the skull that were observable were suggestive of a potential African or mixed ancestry for this individual. However, as described previously, attribution of individuals to particular ancestral backgrounds from skeletal traits are extremely tentative. He was approximately 160.7cm (if the regression formula for stature estimation in black populations is implemented) to 163.3cm (if using the white regression formula) in height (Trotter 1970). Nevertheless, both estimates are shorter than the mean male Roman height of 169cm (Roberts and Cox 2003, 142).

A small number of pathological changes were seen, including minor developmental anomalies of the spine, pelvis and toes, which would not have impacted on his life (Table 6.62). Bilateral spondylolysis (separation of the neural arch) was seen in the fifth lumbar vertebra, which may have been due to a single traumatic event leading to fracture of the neural arch, or the result of an underlying developmental weakness leading to breakage from persistent compressive force on the spine (Ortner 2003). Dandy and Edwards (2003, 433) suggest that this condition is most common in young active individuals, often associated with activities involving bending and lifting (Galloway 1999a, 101; Roberts and Manchester

Table 6.62: summary of osteological results from inhumations from Low Street, Scurragh House and Scotch Corner.

Field No	Grave No.	SK No.	Fragmentation	SP	Completeness (%)	Age	Age Group	Sex	Stature (cm)	Dental Pathology	Skeletal Pathology	Date (cal AD)
261	7181	7182	Mod	1	80	26-35	YMA	M	163.27	Calculus, caries	Border shift; sinusitis; periosteal reaction on scalp; spondylolysis of a lumbar vertebra; congenital anomaly of the 1st distal foot phalanges	1: 243–395 (95.4%) 2: 137–340 (95.4%)
210	10825	10869	Severe	4	35	18+	A	-	-	Calculus	Degenerative disc disease and DJC in the spine	-
210	10827	10841	Extreme	5+	<5	-	-	-	-	-	-	-
209	11803	Disart. bone	Extreme	4	<5	-	-	-	-	-	-	-
209	11808	11815	Severe	4	0.25	18-25	YA	-	-	Calculus, DEH	-	-
209	11813	11819	Extreme	5+	<5	26-35	YMA	-	-	Calculus, caries	-	-
228	27673	27666	Severe	5	60	26-35	YMA	-	-	Calculus, caries, retained 2nd mandibular molars	-	-
265	31507	31508	Severe	4	70	13-19	ADO	-	-	-	-	561–651 (95.4%)
265	31532	31534	Slight	4	100	46+	MA	M	183.4 or 177.3	Externally and internally penetrating abscess, calculus, caries, DEH and periodontal disease	Agenesis of left and right styloid process for MC3. Possible osteochondritis dissecans on distal articulation of R MT1. Asymmetry of manubrium and sternum.	713–890 (95.4%)

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); AD = adolescent; OJ = older juvenile; YJ = younger juvenile; I = infant; N = neonate; P = perinate; F = foetus; M = male; F = female; U = unsexed; I = indeterminate sex; DEH = dental enamel hypoplasia; AMTL = ante-mortem tooth loss; DJC = degenerative joint changes; OA = osteoarthritis; OD = osteochondritis dissecans; DISH = diffuse idiopathic skeletal hyperostosis.

2005, 106) and can cause back pain (Roberts and Manchester 2005, 107). *Spondylolysis* is relatively rare in the Roman period, with a prevalence rate of 1.97% (recalculated from Roberts and Cox 2003, 152).

Healed pitting of the outer surfaces of the skull was also seen in this individual and could have been caused by past episodes of psoriasis, dermatitis, head-lice infestation or other skull inflammations (Ortner 2003). All of these conditions would cause the individual to scratch the affected area and could lead to breakage of the skin, allowing infection to enter. Evidence of chronic sinusitis was also identified.

The majority of his dentition had been preserved, with fourteen tooth positions and 29 teeth preserved (meaning some teeth were recovered loose due to portions of the jaw being lost post-mortem). Calculus was identified on 26 teeth (89.7%) and seven teeth (24.1%) had cavities (eight carious lesions in total of various sizes). The large number of teeth affected by dental pathology is unusual for both the young age of this individual and compared to the Roman norm (Roberts and Cox, 132). This may be due to very poor oral hygiene or a diet high in protein, carbohydrates and sugars.

The age, sex and pathology of this individual do not aid in understanding the unusual manner of his burial.

SCURRAGH HOUSE (FIELDS 209–211)

Five inhumations containing skeletal evidence, four cremation burials and two contexts containing disarticulated bone (a total of 58 fragments) were excavated at Scurragh House (Fig. 5.5).

Inhumations

Field 209

Grave 11803

The disarticulated bone from this grave was so poorly preserved and incomplete that age or sex could not be assessed, and burial position and orientation could not be determined.

Grave 11808

Skeleton 11815 was buried in a north to south orientation and supine extended position with a copper-alloy bracelet, brooch, pin, an animal tooth and pottery. The individual was an unsexed young middle adult with dental calculus and dental enamel hypoplasia.

Grave 11813

Skeleton 11819 was interred in a supine extended position and north to south orientation. The individual was an unsexed young middle adult with calculus and cavities.

Field 210

Grave 10825

Skeleton 10869 was an unsexed adult, buried in a coffin, with pottery dating to the third century AD. The skeleton was in a supine extended position in a north to south orientation and suffered from degenerative joint changes of the spine and dental calculus.

Grave 10827

Skeleton 10841 was particularly poorly preserved. While the excavators thought this was a non-adult, the age of the skeleton could not be assessed. The individual was interred with a jet necklace, bone and glass beads.

Inhumation summary

The inhumations and two of the cremation burials had been interred behind what is assumed to be a line of buildings along Dere Street. Grave goods were found in three graves and Skeleton 10869 (Grave **10825**) was buried in a coffin. The other two cremation burials were potentially associated with an enclosure. The cremation burials dated to between the 2nd and 4th century AD and were all unurned and contained pottery sherds, as well as hobnails.

The inhumations from Scurragh House (see Table 6.62) were severely fragmented and very poorly preserved, with the highest completeness being 35% (Skeleton 10869). The minimum number of individuals from these inhumation burials was three. Age estimations could only be made for two individuals based on dental wear, which as discussed previously is not a reliable indicator of age when used in isolation. Skeleton 11815 (Grave **11808**) was possibly a young adult (18–25 years) and Skeleton 11819 (Grave **11813**) possibly a younger middle adult (26–35 years). Skeleton 10869 was likely an adult (18+ years). Age could not be determined for the extremely fragmented skeletal material. Sex, stature or skeletal pathology could not be identified in any of the skeletons.

Three individuals had a total of 32 teeth present for analysis. Dental plaque concretions were recorded on one tooth from Skeleton 10869, and four teeth from Skeletons 11815 and 11819, who also had a small cavity. Childhood stress lesions (dental enamel hypoplasia) were observed on eight teeth from Skeleton 11815 and five disarticulated teeth from an older juvenile (6–8 years). In the disarticulated skeletal material, one adult right femur was identified from ditch **7960** and teeth from an older juvenile (6–8 years) were recovered from corn dryer **10712**.

Cremation burials

Field 210

Grave 7830

Cremated deposit **7831** dated to the late third to fourth century AD and was buried in a bowl-shaped pit surrounded by four stakeholes with a hobnail, pottery and animal bone. It contained 72.4g of well-preserved white to black bone of an adult.

Grave 7859

Cremated deposit **7860** was buried in a bowl-shaped pit with five stakeholes inside it and four stakeholes around it. It was buried with third century pottery and a hobnail. A total of 92.3g of well-preserved white to black bone from a juvenile was recovered.

Field 211

Grave 7671

Cremation deposit **7671** was interred in a bowl-shaped pit surrounded by four stakeholes and included charcoal, pottery dating to the 3rd or 4th century and animal bone. The 143.1g of bone was not well preserved and of a white to black colour.

Grave 7683

Cremated bone assemblage **7684/5** was buried in a bowl-shaped pit surrounded by four stakeholes and included pottery dating to the 2nd and 3rd centuries AD, as well as a hobnail and animal bone. The 119.9g of bone was in a poor condition and white to light grey in colour.

Cremation burial summary

The cremated bone assemblages from Field 210 (Graves **7830** and **7859**) were well preserved, while those from Field 211 (Graves **7671** and **7683**) were in a comparatively poor state of preservation. The weight of bone ranged from 72.4g to 143.1g, with a mean weight of 106.9g (Table 6.63). The amount of bone retrieved from the cremation burials weighed significantly less (4.4–8.8%) than the average bone weight produced by modern crematoria (mean 1,625.9g; McKinley 1993). There was no correlation between the age of the individual and the weight of the assemblage. However, it must be noted that age could only be determined in two (50%) of the assemblages.

The maximum fragment size ranged from 25.8mm to 46.8mm, with a mean of 32.1mm (Table 6.64). The proportion of bone in the 10mm sieve was small in all burials (on average 7.5% of the assemblages), with the majority of bone being recovered from the 2mm sieve (46.1%) and 5mm sieve categories (40.8%). This either indicates that the bone was subject to disturbance while still hot, when it is most prone to fragmentation, or that fragmentation occurred due to post-depositional disturbance.

The cremated bone varied in terms of colour. The two assemblages from Field 210 were generally well burnt, with a white colour, while the remains from Field 211 were incompletely calcined, having a more mottled appearance of white, grey and black. This suggests that the bone had not reached sufficient temperatures to completely calcine. As discussed previously, this may be due to insufficiencies in burning time or construction/tending of the pyre.

On average, 50.9% of the bone within each assemblage could be identified. As can be seen in Table 6.65, most identifiable elements were generic long bone shaft fragments (28.2%), closely followed by skull fragments (20.6%). Upper limb long bones were less well represented (6.8%) and only few lower limb (5.9%) and axial fragments (6.8%) could be identified.

No double burials were identified in the four cremation burials. Bone robusticity, which is not a reliable ageing criterion, suggested that Grave **7830** contained an adult individual. Grave **7859** contained an older juvenile, based on tooth development. It was not possible to estimate sex in any of the assemblages and pathological lesions were not observed.

SCOTCH CORNER (FIELDS 228 AND 265)

Excavations in Fields 228 and 265 at Scotch Corner revealed three inhumations and a small quantity of disarticulated human bone. In addition, a further burial was not excavated and was retained in situ.

Field 228

One inhumation was recovered from Field 228 (Grave **27673**; see Table 6.62). Skeleton 27666 probably dated to the early Roman period and was interred in a flexed position on their left side and in an east to west orientation. It was very poorly preserved and only 60% of the skeleton survived. The individual was a young middle adult (26–35 years), but it was not possible to estimate sex or identify any pathological changes.

The individual had eleven loose teeth preserved, with dental plaque concretions evident on ten teeth and a single cavity on one tooth. Two very worn deciduous second mandibular molars (milk teeth) may have been retained due to the failure of the permanent second premolars to develop.

Field 265

Two inhumations were excavated in Field 265 (Graves **31507** and **31532**; see Table 6.62), giving an MNI for this area of two (based on two left femoral heads recovered from the two graves). A further burial, Grave **29975**, was

Table 6.63: summary of cremation burials from Scurragh House.

Field	Grave No.	Fill	Feature Type	Urned	Period	Bone Colour	Preservation	Weight (g)	% of Expected Bone Quantity†	Max. Fragment	MNI	Age	Sex	Notes
210	7830	7831	Bowl-shaped pit 7830	N	224–391 (95.4%)	White/ grey/black	Good	72.4	4.5	25.8	1	A?	-	Four stakeholes set around outer edge. To south of Burial 7860
210	7859	7860	Bowl-shaped pit 7859	N	131–333 (95.4%)	White/ grey/black	Good	92.3	-	29.3	1	J	-	Five burnt stakes set within feature, four additional stakeholes set around outer edge. To north of Burial 7831
211	7671	7672/7673	Upper and lower fills within a bowl-shaped pit 7671	N	7672: 239–390 (95.4%) 7673: 179–390 (95.4%)	White/ grey/black	Poor	143.1	8.8	46.8	1	-	-	Surrounded by four stakeholes. Burials 7672 and 7673 form one deposit from the same burial event. To south of cremation pit [7683]
211	7683	7684/7685	Upper and lower fills within a bowl-shaped pit 7683	N	7684: 138–377 (95.4%) 7685: 89–323 (95.4%)	White/light grey	Poor	119.9	7.4	26.6	1	-	-	Surrounded by four stakeholes. Burials 7684 and 7685 form one deposit from same burial event. To north of cremation pit [7671]

† Weight of bone is expressed as a percentage of average weight of bone recovered from modern cremation burials (1,625.9g, McKinley 1993). However, this cannot be calculated for non-adults or multiple burials, which have been left blank. Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years); F = Foetus (up to 40 weeks in utero); N = Neonate (Birth to 1 month); I = Infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = Adolescent (13–17 years).

Table 6.64: summary of cremated bone fragment size from Scurragh House.

Field	Grave No.	10mm (g)	10mm (%)	5mm (g)	5mm (%)	2mm (g)	2mm (%)	<2mm	Weight (g)
210	7830	4.1	5.7	29.9	41.3	34.2	47.2	4.2	72.4
210	7859	6.7	7.3	40.4	43.8	42.4	45.9	2.8	92.3
211	7671	13.5	9.4	53.7	37.5	66.1	46.2	9.8	143.1
211	7683	9	7.5	48.8	40.7	53.8	44.9	8.3	119.9

Table 6.65: summary of identifiable elements in the Sucrragh House cremation burials.

Field	Grave No.	Skull (g)	Skull (%)	Axial (g)	Axial (%)	UL (g)	UL (%)	LL (g)	LL (%)	UIL (g)	UIL (%)	Total ID (g)	Total ID (%)	Total UID (g)	Total UID (%)
210	7830	22.2	30.7	7.5	10.4	3	4.1	-	-	14.1	19.5	46.8	64.6	25.6	35.4
210	7859	14.3	15.5	6.1	6.6	6.8	7.4	6.9	7.5	20.8	22.5	54.9	59.5	37.4	40.5
211	7671	10.3	12.5	5.3	6.4	10.4	12.6	7.6	9.2	49	59.3	82.6	57.7	60.5	42.2
211	7683	16.5	23.9	2.5	3.6	9.9	14.3	4.7	6.8	35.5	51.4	69.1	57.6	50.8	42.4

Key: UL = upper limb; LL = lower limb; UIL = unidentified long bone.

observed adjacent to Grave **31532**; it was not excavated and remains in situ. In addition, a single fragment of disarticulated human bone was also recovered.

Grave 31507

Skeleton 31508 dated to the early medieval period (cal AD561–651, 95% confidence) and was buried in a flexed position on the right side, with a south-west to north-east orientation. Despite approximately 70% of the skeleton surviving, the bones were poorly preserved, which hampered the ability to accurately assess the individual's age. The individual was likely an adolescent, aged between 13 and 18 years. Skeleton 31508 had four teeth preserved, but no evidence of any dental pathology.

Grave 31532

Skeleton 31534 dated to cal AD713–890 (95% confidence) and was interred flexed on the left side, with a south-west to north-east alignment. Despite relatively poor surface preservation, the entire skeleton was recovered for this individual (100% completeness). They were likely a mature adult male (46+ years). The individual exhibited both African and Caucasian morphological traits and was between 177.3m (if the regression formula for stature estimation in black populations is implemented) to 183.4m (if using the white regression formula) in height (Trotter 1970). Both estimates are considerably taller than the male mean for the period of 172cm (Roberts and Cox 2003, 195), but would have fallen within the normal stature range (*ibid*.).

The skeleton had two developmental anomalies affecting his breastbone, with asymmetry of the manubrium and sternum. Further anomalies were noted in the third metacarpals (bones in the palm of the hand), with agenesis (lack of development) of the styloid process. *Osteochondritis dissecans*, a condition that affects the joints and is caused by trauma, usually in adolescence, was seen on the right first metatarsal (arch of the foot). This condition refers to a localised death of tissue that can result in a segment of bone becoming detached from the joint surface (Roberts and Manchester 2005, 121). This can result from damage to the blood supply to the bone, perhaps resulting from trauma (*ibid*.). Chronic sinusitis was also observed in a maxillary sinus and was likely caused by a large dental abscess affecting this individual. The individual exhibited degenerative changes to the spine, medial ends of both clavicles (joint between the collarbone and breastbone) and auricular surfaces (articulation between the pelvis and sacrum), which was likely due to age-related wear and tear. Schmorl's nodes were present on two vertebrae. These can result from damage to the intervertebral discs (Rogers 2000), possibly from frequent lifting or carrying of heavy loads.

Skeleton 31534 had 32 teeth, with dental plaque concretions on 29 teeth, two large cavities and a large abscess. Dental enamel hypoplasia (horizontal grooves in the teeth) were seen on two teeth and are suggestive of episodes of stress (either due to malnutrition, periods of illness, or a combination of the two) experienced during early childhood (Hillson 1996).

Disarticulated human bone

A very well preserved disarticulated fragment of skull was recovered from subsoil **31501**. Its size and thickness would suggest that it belonged to either an adolescent or an adult.

Discussion of early medieval burials

Field 265 at Scotch Corner produced two burials that are much later in date compared to most graves found during the A1 scheme, dating to between the 6th and 9th centuries. It is unclear to what extent the burials represent funerary events isolated or whether they were part of a larger cemetery. They represent an adolescent (Skeleton 31508, Grave **31507**) and a mature adult male of potential mixed ancestry (Skeleton 31534, Grave **31532**).

The presence of an individual of possible mixed ancestry was unexpected. Individuals of African ancestry frequently appear within the archaeological record from the Roman period in this region (Leach *et al.* 2009; Eckhardt *et al.* 2014) but are not as commonly identified in early medieval burials. The authors have previously analysed two skeletons of potential African or mixed ancestry from the early medieval period. One of these was a mature adult male from Tiddington, Stratford-upon-Avon (Holst 2010). Unfortunately, DNA analysis undertaken for this individual with the aim of establishing ancestry was inconclusive. The second case was a mature adult male from St Benet's churchyard in York, dating to the 10th or 11th centuries (Keefe and Holst 2015). A more famous example of an African individual during the early medieval period was Hadrian, an abbot at St Peter's and St Paul's at Canterbury. He died in 709AD having lived in England for 41 years and is mentioned in Bede's *Ecclesiastical History of the English People* (Farmer 2003).

COMPARISON OF THE ROMAN DATASET WITH CONTEMPORARY DATA

During the excavations at Bainesse, *Cataractonium*, Low Street, Scurragh House and Scotch Corner, a total of 171 inhumed skeletons were excavated. Two of these, from Field 265, will not be discussed here, since they date to the early medieval period and are examined in the section above. The human remains recovered from these areas formed by far the largest proportion of skeletons from the A1 scheme. The data collected from the human remains from these sites will be placed within their wider Roman British context, and compared with other significant skeletal populations from this period (see Tables 6.1–6.3 for site summaries and references).

Radiocarbon dating has shown that Bainesse Cemetery continued in use from the early Roman into the early medieval period, with the latest burial dating to the 10th or early 11th century. However, the majority of the 83 inhumations and 19 cremation burials from Bainesse Cemetery that have provided radiocarbon dates fall into the Roman period, and as such this cemetery will be considered as essentially Roman here.

INHUMATIONS

Preservation

To summarise, preservation of the skeletons typically ranged from moderate to very poor, with the best surface preservation seen at *Cataractonium* and the worst at Low Street, Scurragh House and Scotch Corner (referred to as 'Other Sites' within this section). The least fragmentation was also seen at *Cataractonium* and varied from moderate to poor within all the sites. Completeness of the skeletons was also poor, with the majority of Roman skeletons from the A1 scheme being only 0–20% complete (50.9%; Fig. 6.40). The largest proportion of incomplete skeletons were recorded at Bainesse. Due to issues inherent with poor preservation and low retention of skeletal elements for analysis, the demographic data presented here is likely somewhat skewed, but can still be used to aid discussion into how these sites compare with other skeletal assemblages from Roman Britain.

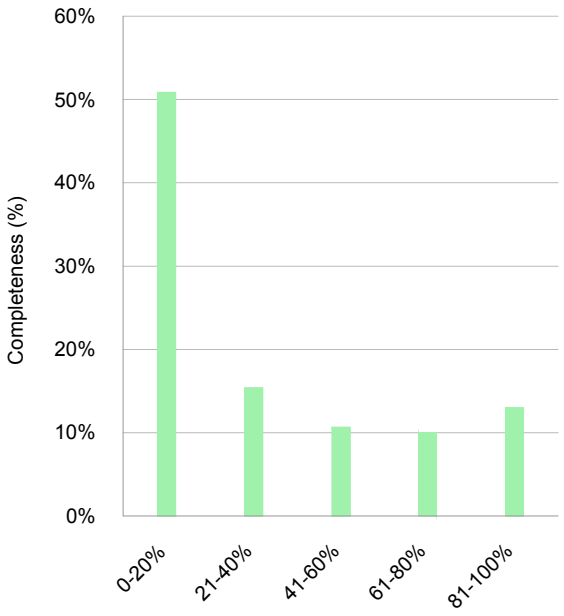


Figure 6.40: fragmentation of all Roman skeletons combined.

Demography

The minimum number of individuals based on the inhumed Roman skeletons and disarticulated bone fragments combined from all sites was 160 individuals, including 118 adults, five adolescents, five older juveniles, 23 younger juveniles, one infant and seven neonates/perinates and one foetus.

The overall Roman demographic profile shows that a larger proportion of the inhumed 118 adults were male (31.4%) as opposed to female (17.8%; Table 6.66 and Fig. 6.41). Unfortunately, it was not possible to estimate sex in almost half of the population due to the incomplete nature and poor preservation of the skeletons.

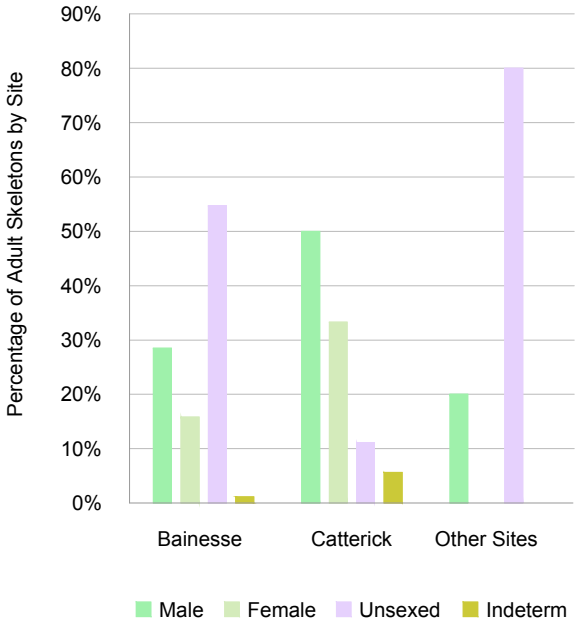


Figure 6.41: graph showing sex distribution of A1 scheme Roman adults.

Of the seven Roman skeletons identified at the Other Sites, sex could only be assessed in one and this was male. Males and females were similarly unevenly represented at Cataractonium (60% males versus 40% females of sexed adults) compared with Bainesse (64.3% males versus 35.7% females; see Figure 6.41).

The trend of Roman cemeteries containing larger numbers of males is common and was also seen at Horncastle, Lincolnshire (33.3% males, 23.3% females, 43.3% unsexed), as well as at Healam Bridge, North Yorkshire (57.1% male, 42.9% female), at Baldock, Hertfordshire (54.3% males, 39.0% females, 10.9% unsexed) and at Gloucester (45.1% males, 21.6% females, 33.3% unsexed), among others. Conversely, at Lankhills, the male to female ratio was 1:1, while at Wattle Syke two thirds of Roman adults were female and one third male. The larger number of males compared with females in most Roman cemeteries has been explained as the result of the Roman military occupation of Britain, as well as a likely greater proportion of male as opposed to female migrants to Britain during the period (Gowland *et al.* 2014).

When considering age and sex together for the A1 scheme (see Table 6.66 and Figure 6.42), it was found that the age distribution did not reflect a normal attritional demographic profile, with the greatest mortality for both sexes observed in the young middle adult age group, particularly for males (31.0% of male and 15.7% of female sexed adults). This was followed by the mature adult age group for females (8.6% of sexed adults) and old middle and mature adults for males (both 12.1% of sexed adults). Only a small number of female old middle adults (3.4% of sexed adults) and young adults of both sexes were identified (3.4% of male and 1.7% of female sexed adults). It is possible that the reliance on dental

Table 6.66: sex and age distribution of A1 scheme Roman adults.

Site	Age Group	Male	%	Female	%	Unsexed	%	Indeterm	%	Total	%
Bainesse	YA	1	3.7%	0	0.0%	6	11.5%	0	0.0%	7	7.3%
	YMA	16	59.3%	7	46.7%	0	0.0%	1	100.0%	24	25.3%
	OMA	3	11.1%	2	13.3%	0	0.0%	0	0.0%	5	5.3%
	MA	5	18.5%	5	33.3%	0	0.0%	0	0.0%	10	10.5%
	A	2	7.4%	1	6.7%	46	88.5%	0	0.0%	49	51.6%
	Total	**27**		**15**		**52**		**1**		**95**	
Cataractonium	YA	1	11.1%	1	16.7%	0	0.0%	1	100.0%	3	16.7%
	YMA	1	11.1%	2	33.3%	0	0.0%	0	0.0%	3	16.7%
	OMA	4	44.4%	0	0.0%	0	0.0%	0	0.0%	4	22.2%
	MA	2	22.2%	0	0.0%	0	0.0%	0	0.0%	2	11.1%
	A	1	11.1%	3	50.0%	2	100.0%	0	0.0%	6	33.3%
	Total	**9**		**6**		**2**		**1**		**18**	
Other Sites	YA	0	0.0%	0	0.0%	1	25.0%	0	0.0%	1	20.0%
	YMA	1	100.0%	0	0.0%	2	50.0%	0	0.0%	3	60.0%
	OMA	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	MA	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
	A	0	0.0%	0	0.0%	1	25.0%	0	0.0%	1	20.0%
	Total	**1**		**0**		**4**		**0**		**5**	

Key: YA = young adult (18–25 years); YMA = young middle adult (26–35 years); OMA = old middle adult (36–45 years); MA = mature adult (46+ years); A = adult (18+ years).

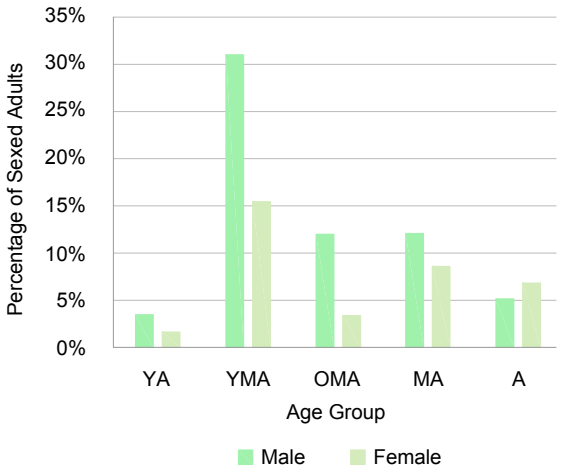


Figure 6.42: graph showing sex and age distribution of A1 scheme Roman adults.

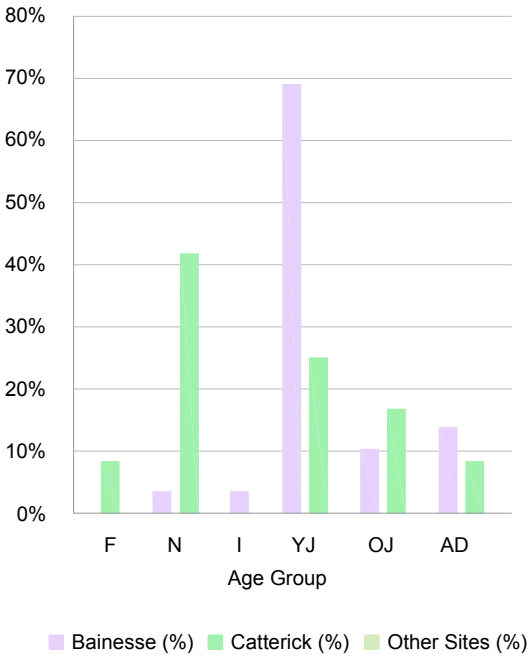


Figure 6.43: non-adult demography within the A1 scheme Roman population.

wear as a primary method of age estimation for adults in the Bainesse sample led to under estimation of age in this group, as dental wear is heavily influenced by diet.

Considerable variation has been observed in the demographic profiles of the comparative cemeteries. At Gloucester, the age profile corresponded with that for the A1 scheme, since the greatest number of adult deaths occurred between the ages of 18 and 35 (Marquez-Grant and Loe 2008, 33). However, at this site, males and females were almost equally represented in each age category.

At Horncastle, the peak in adult mortality was seen in the old middle and mature adults and only 12% of the sexed population were young middle adults, with males and females equally represented. There were no sexed young adults in the population, while an equal number of each sex were in the old middle and mature adult age categories.

At Healam Bridge, the highest mortality was seen in the old middle adult age group, followed by the young middle adult age group. Notably, at this site, males were only represented in the younger age categories (18–45 years), while females were only found in the older age categories (36–46+ years).

Lankhills again differed from this trend, demonstrating a normal attritional age profile, with increasing numbers of deaths in older age groups, as one would expect (Clough and Boyle 2010, 347). However, similar to Healam Bridge, a greater proportion of males were represented in the younger age groups and females in the older age groups (Clough and Boyle 2010, 350). This was also the case at Baldock, where the highest mortality was observed in the old middle adult and mature adult age groups, with males represented in all age groups, but females only represented in the two older age groups.

The evidence for Roman demographic profiles suggests that the dangers associated with childbirth were not a

Table 6.67: non-adult demography within the A1 scheme Roman population.

Site	Age						
	F	N	I	YJ	OJ	ADO	Total
Bainesse (N)	0	1	1	20	3	4	29
Bainesse (%)	0.0%	3.4%	3.4%	69.0%	10.3%	13.8%	-
Cataractonium (N)	1	6	0	3	2	1	13
Cataractonium (%)	8.3%	41.7%	0.0%	25.0%	16.7%	8.3%	-
Other Sites (N)	0	0	0	0	0	0	0
Other Sites (%)	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	-
Total (N)	1	7	1	23	5	5	42
Total (%)	**2.4%**	**16.7%**	**2.4%**	**54.8%**	**11.9%**	**11.9%**	**-**

Key: F = foetus (up to 40 weeks in utero); N = neonate (birth to 1 month); I = infant (1–12 months); YJ = young juvenile (1–6 years); OJ = older juvenile (7–12 years); AD = adolescent (13–17 years).

major contributing factor to female mortality and that other factors often contribute to males dying younger than females. Redfern and DeWitte (2011a) have analysed the effects of Romanisation on health in Britain and found that factors including working for the military or other professions that carried risks, large-scale movement of people and status had a negative impact on male health and mortality.

A quarter of the Roman population excavated during the A1 scheme consisted of non-adults (24.9%). The non-adult mortality profile shows that the highest mortality at *Cataractonium* was in the neonatal age group, while by far the largest number of non-adult deaths at Bainesse occurred in the young juvenile age group (Table 6.67 and Fig. 6.43).

At Lankhills, the proportion of non-adults was similar to that at the A1 scheme, with 23.9% of the population being non-adults and the mortality peak was similar to that observed at Bainesse, in the one- to seven-year age group (Clough and Boyle 2010, 348). At Baldock, 19.3% of the population were non-adults, with the greatest peak in older juveniles (7–12 years). At Ancaster, 26% of the population was made up of non-adults.

At Gloucester, the proportion of non-adults was much lower, with 15% and a peak in mortality in the adolescent age group and the proportion of non-adults was even lower at Horncastle, at 11.8%, with the highest mortality in the older juvenile (7–12) year old group.

At Healam Bridge, a notable 68% of the population were non-adults and 82.3% of these were neonates, suggesting that this site was more similar to *Cataractonium*. However, both populations were relatively small and further evidence is required before any firm parallels can be drawn.

It is expected that the highest mortality in prehistoric and Roman populations is found in the first year of life (Scott 1999) and that a high proportion of burials ought to be neonates if the cemetery contains a representative sample of the living community (neonate mortality should be 15–30%; Rega 1997). However, the proportion of neonate burials at *Cataractonium* exceeded the number recovered from many Roman cemeteries in Britain. It seems that neonate burial was not uncommon along Dere Street, with large numbers of neonate burials at Healam Bridge and at Wattle Syke in West Yorkshire. All of the ten early Roman skeletons from the latter of these two sites had died around the time of birth, including a foetus, four perinates, four neonates and one infant (Caffell and Holst 2013). In the late Roman phase at Wattle Syke, 55.6% of the population (15 individuals) were non-adults and of these, 86.7% had died around the time of birth.

The possibility of infanticide is often raised with relation to Roman Britain (Scott 1999, 70–6; Mays 2000) and Mays (2000) has argued that the frequent peak in deaths around 38–40 weeks *in utero* (i.e. full term) observed among infants in Roman contexts could be evidence in support of this practice. However, Scott (1999, 67) has highlighted how difficult it is to infer the practice of infanticide from the archaeological evidence. One of the issues she raises is the difficulty in accurately determining the age at death of the infant, which was a problem encountered at Wattle Syke. Infanticide would not be the only explanation for infant deaths, as many natural causes associated with the risks of birth and exposure to new environments and diseases exist (Scott 1999; Lewis 2007). Redfern and Gowland (2012, 120) have found that osteological results from Roman Dorset, London and Rome itself suggest that most neonates are full term and that post-partum factors have increased the mortality in these neonates, thus implying that dying of natural causes during this fragile time was common. In fact, it has been found that child mortality and morbidity rose after the Roman conquest, with the increase in urban settlements and migration promoting the spread of infectious diseases (Redfern and DeWitte 2011a) and this would have been particularly pertinent along Dere Street. For example, documentary evidence suggests that Roman infant feeding practices included replacing colostrum (the first mother's milk) with water and honey, which would expose infants to greater risks from contaminated water and provide them with less natural protection (Redfern and Gowland 2012, 125). This, together with the use of wet nurses and the practice of swaddling babies, could have had a detrimental effect on infant health (Redfern and DeWitte 2011a).

Metrical analysis

Even when all sites were combined, it was only possible to calculate stature in 23 Roman skeletons from the A1 scheme, comprising fifteen males and eight females (Table 6.68). Male stature ranged from 156.4cm to 171.9cm, with a mean of 165.3cm. This is slightly shorter compared to the male Roman mean of 169cm (Roberts and Cox 2003, 142). Male stature was taller at

Table 6.68: stature estimation for the A1 scheme Roman population.

Site	Sex	Number		Mean	Range	
		(n)	(%)		Min	Max
Bainesse	Male	11	40.7	166.3	160.7	171.9
	Female	6	40.0	157.2	153.2	161.5
Cataractonium	Male	4	44.4	167.2	163.8	173.3
	Female	2	33.3	155.9	153.5	158.3
Other Sites	Male	1	50	163.3	163.3	163.3
	Female	0	-	-	-	-

Cataractonium compared with Bainesse. Male height was unusually short for the period, similar to Healam Bridge, where height could be established for two males who were both 161.0cm tall. Mean male stature was taller at Baldock (167.7cm), Ancaster (168.7cm), Lankhills and Gloucester (169cm at both) and particularly at Horncastle (172.2cm).

Female stature ranged from 153.2cm to 161.5cm, with a mean of 156.9cm, which was slightly shorter than the female mean stature for the period (159cm). Female stature at the A1 scheme cemeteries was also shorter than at any of the comparative sites (Ancaster: 156.9cm; Lankhills: 157cm; Baldock: 158.5cm; Gloucester: 160cm; and Horncastle: 159.8cm).

Ancestry

Three male skeletons from Bainesse exhibited aspects of skeletal morphology consistent with African or mixed ancestry, including Skeletons 13342 (Grave **6**, young middle adult), 13328 and 12996 (Graves **7** and **140**), both young middle adults). Skeleton 20957 (Grave **20955**, old middle adult male) from *Cataractonium* and Skeleton 7182 (Grave **7181**, young adult male) from Low Street also had some African facial characteristics. Grave **6** at Bainesse was one of the earliest burials in the cemetery, as was the possible African at *Cataractonium* (Skeleton 20957). Skeleton 13328 dated to the late 2nd century, while Skeleton 12996 from Bainesse and Skeleton 7182 from Low Street dated to the late 3rd to 4th century AD. At Bainesse the probable Africans were interred in a formal manner, whereas the possible Africans from *Cataractonium* and Low Street were buried in more unusual prone positions.

During the Roman period, the army and commerce were two fundamental reasons for migration, along with more seasonal motivations, such as agricultural practices and urban building projects, or even religious festivals and family gatherings (Eckardt *et al*. 2014, 534). Application of a variety of traditional methods, such as documentary and epigraphic evidence, craniometric and cranial morphological analysis, as well as recently developed biomolecular techniques, such as isotope and DNA analysis, have considerably increased our understanding of migration and diversity in the Roman period. Migrants from Africa, the Mediterranean, the Near East and Northern Europe have been found to live in Britain since immediately after the Roman conquest and studies have also found considerable movement of people within Britain (Martiniano *et al*. 2016; Shaw *et al*. 2016). For example, Leach *et al*. (2009) found that of 85 skulls and 42 isotope samples from Roman York, between 11% to 12% were likely of African ancestry, while Martiniano *et al*. (2016) have identified a Roman male in York that was of Near Eastern origin.

Research of Roman skeletons from Hollow Banks Farm (Scorton), Lankhills and York have identified a number of young males thought to be of different status, perhaps serving in positions of authority in the imperial administration or perhaps the late Roman army, based on their burial with crossbow brooches and belt fittings. At Hollow Banks Farm, Scorton (approximately 650m north-east of the Roman fort at *Cataractonium*), nine late 4th-century male skeletons buried with these items were analysed by Eckardt *et al*. (2015) and seven of these were of non-local origin based on isotope analysis. It was argued that it was their administrative roles, potentially associated with the army, that made them distinct from the rest of the population, rather than their ethnicity (*ibid*.).

However, it must be noted that not only the males, like the ones discussed here from Bainesse, *Cataractonium* and Low Street, moved. There is also plenty of evidence for female and child migrants, such as the well-known 'Ivory Bangle Lady' from York and a child and female from Roman London (Leach *et al*. 2010; Eckhardt *et al*. 2014, 541; Shaw *et al*. 2016). Isotopic evidence from a 2nd- to 3rd-century cemetery and mass grave from the *colonia* (a retirement settlement for Roman legionaries and their families) at Gloucester, revealed a varied isotopic signal representing both indigenous and non-local individuals (Marquez-Grant and Loe 2008, 67).

While many of these burials have been targeted for research on migration because of their exotic grave assemblages, which mark them out as different from the rest of the buried population (Eckhardt *et al*. 2014), Shaw *et al*. (2016) found that imported grave goods cannot be equated with non-local origin. Conversely, they found that some of those with isotopic signatures local to Roman London were buried with grave goods traditionally assumed to be Germanic. It must be noted, however, that isotope analysis of diet and origin can only identify first generation immigrants and that only DNA analysis, such as the work by Martiniano *et al*. (2016) on a small number of skeletons from Roman York, would be able to identify second generation immigrants. It seems that based on the isotope analysis, the possible Africans from Bainesse were also not first generation immigrants (see Chapter 10).

The civilian settlement at Bainesse has been described as an intrusive cultural model by Wilson (2002b, 456), with regards to the building style (no indigenous roundhouses on the site) and the ceramic finds assemblage. This, combined with the foundation of *Cataractonium* by the army, would point strongly to a potentially ethnically diverse population at the frontier settlement. However,

in stark contrast to Hollow Banks Farm, Scorton, and isotopic studies from across Roman Britain, a study conducted by Chenery *et al*. (2011, 1532) found that none of the individuals previously excavated from Bainesse or *Cataractonium* were unequivocally from outside Britain. Their study found that the 2nd and 3rd century skeletons from Bainesse were isotopically slightly varied compared to the homogenously local 4th century *Cataractonium* skeletons, although none of the results could conclusively identify any non-local signatures (*ibid*.). It has been suggested that traffic on Roman Dere Street was reduced by the 4th century and may also be related to later Roman military recruitment policies.

Roman health

Unfortunately, the poor preservation and incomplete nature of the majority of the Roman skeletons hampered identification of potential skeletal lesions and would have inevitably led to under-diagnosis of pathology and trauma. Nevertheless, some notable instances of skeletal pathology were seen within the sample.

Childhood stress

Evidence for childhood stress was noted in many of the Roman individuals. This could take the form of dental enamel hypoplasia lesions in the teeth, which form in the first seven years of childhood, or lesions in the eye orbits, caused by *cribra orbitalia*, which have been attributed to general childhood stress (Lewis 2000; Roberts and Manchester 2005) but can remodel in adulthood. *Cribra orbitalia* was observed at all three sites, with 65.4% of orbits affected overall, and a much higher prevalence in males than in females. This is considerably higher than the mean true prevalence for British Roman populations, at 16.9% (Roberts and Cox 2003, 141) and also higher than the prevalence rate calculated for Horncastle, where 44.4% of orbits were affected by the lesions. However, it is slightly lower than the prevalence observed in London (55%; Gowland and Redfern 2010, 29).

The true prevalence of the lesions was lower at Bainesse (42.9%) than at *Cataractonium* (75.5%); however, non-adults in particular were more likely to show evidence for the lesions at Bainesse (83.3%) compared with *Cataractonium* (33.3%). This may be due to the predominance of neonates in the non-adult group at *Cataractonium*, in which *cribra orbitalia* lesions would not yet have developed. The higher prevalence at Bainesse compared with *Cataractonium* may thus be due to the larger number of older non-adults and may either be related to better survival rates of those who experienced stress, or, conversely, greater childhood stress at Bainesse.

When examining other childhood stress indicators, such as dental enamel hypoplasia lesions in the teeth (which cannot remodel), the true prevalence observed for adults at all Roman sites was 18.0%, which is double the mean Roman tooth prevalence rate of 9.1% (Roberts and Cox 2003, 140). At Baldock, an even greater number of teeth (24.4%) were affected by DEH and the rate at Gloucester was even higher (35.1%) and comparable to Roman London (30%; Gowland and Redfern 2010, 29). The rate was slightly lower at Horncastle (14.8% of adult teeth) and at Lankhills (7.3%). Notably, the site-specific patterns of *cribra orbitalia* were mirrored for dental enamel hypoplasia, with a higher prevalence of the dental lesions at *Cataractonium* (24.0%) compared with Bainesse (17.1%).

Male teeth (17.4%) were affected slightly less by dental stress lesions than female teeth (21.8%) for all Romans from the A1 scheme, which may indicate that females were more likely to survive episodes of stress during childhood, or that female children experienced slightly more stress than male children. Interestingly, a greater number of male teeth were affected by the lesions at Bainesse (20.1%) compared with *Cataractonium* (13.3%), while the pattern was reversed for females (10.8% of female teeth were affected at Bainesse compared with 50.5% of female teeth at *Cataractonium*). The evidence suggests that male children at Bainesse either experienced greater stress or that they were more likely to survive the episodes than females, while the opposite was true for *Cataractonium*. It is generally accepted that males have lower immune systems compared with females (Redfern 2003, 157) and thus it is more likely that male children were more severely affected by malnutrition and disease than female children.

The incidence of dental enamel hypoplasia was greatest in the young adult females (64.5%) and young middle adult males (19.4%), supporting previous findings that those individuals who experienced childhood stress tend to have lower longevity than those who do not have these lesions (Gowland 2015). However, the Bainesse females were an exception to this, since the highest prevalence of the lesions was noted in the mature adult female teeth at this site (17.5%).

Dental enamel hypoplasia was observed in 18.4% of non-adult teeth at Bainesse and 56.1% of non-adult teeth at *Cataractonium*. DEH is rarely seen in deciduous (milk teeth), as the child usually has natural protection from stress *in utero* when the deciduous teeth form. As such, it is much more common to observe the lesions in children who have permanent dentition. This was also the case at Bainesse, where the highest incidence of DEH lesions was observed in the adolescent age group (30%). Overall, the prevalence of DEH per tooth in all the

Roman non-adults was 23.6%, which was slightly lower than that from Lankhills, where 34.8% of non-adult teeth showed the lesions.

Gowland and Redfern (2010) have discussed potential causes for such high prevalence rates of childhood stress indicators in Roman populations, particularly with reference to Roman London. They suggest that reasons for this are multifactorial, including inadequate diet in infancy, particularly during weaning, as well as migration from countries in the Mediterranean, where *cribra orbitalia* was much more prevalent due to its association with malaria, which was endemic in the Mediterranean during this period. Other contributors to childhood stress were increased population density (Redfern and Gowland 2010, 33–4), greater social inequality and greater risk of disease due to movement of people (thus necessitating adaption to new environments and new pathogens). Redfern and DeWitte (2011a) suggest that these factors had an overall negative impact on the health of Roman populations in Britain. At Poundbury, *cribra orbitalia* was observed in 38.5% of non-adults and rickets and/or scurvy in 11.2% (Lewis 2010, 9). Poundbury is an atypical Roman population due to the unusually high prevalence of disease attributed to a number of reasons (Rohnbogner and Lewis 2017). It has been suggested that swaddling, use of wet nurses, intentional withholding of colostrum, inadequate weaning foods and substitution of breastmilk with honey and goats milk contributed to the high incidence of metabolic conditions in this population. It is also possible that mothers were deficient in nutrients prior to and during pregnancy, possibly as a result of exploitative tenancies that caused rural poverty, which may have resulted in poor health epigenetically (*ibid*.).

Few other indicators of childhood stress were noted within the sample. At Bainesse, two young juveniles (Skeletons 12474 and 13188, Graves **201** and **231**) and one old middle or mature adult male (Skeleton 13146, Grave **197**) showed possible evidence for rickets in the form of bowed bones (crude prevalence rate 1.8%), while two younger juveniles from Bainesse had possible scurvy in the form of inflammatory lesions on the skull (Skeletons 12427 and 13274, Graves **194** and **235**; crude prevalence rate 1.2%). Scurvy develops as a result of prolonged deficiency in vitamin C (Ortner 2003, 384). Vitamin D deficiency due to lack of exposure to sunlight or a lack of vitamin D can lead to the development of rickets (Lewis 2007, 119). Infant and child feeding practices, such as swaddling and the amount of time spent outdoors, which may be reduced in sickly children, can cause the development of the condition (Brickley *et al*. 2014). Both scurvy and rickets are more commonly seen in post-medieval skeletal assemblages but are rare in Roman Britain. Roberts and Cox (2003, 143) noted rickets in 0.8% of individuals in the Roman period, suggesting a much lower incidence than was observed in the Roman population recovered as part of the A1 scheme. At Lankhills, rickets was also observed in 1.8% of individuals, while one female skeleton was affected with rickets at Ancaster (CPR 0.3%). Scurvy was not reported by Roberts and Cox (2003) for the Roman period; however, at Lankhills, Clough and Boyle (2010, 391) recorded scurvy in 1.8% of the population, which was a higher crude prevalence rate than that seen within A1 scheme sample. Lack of breastfeeding can cause scurvy in infants and is thought to have been a potential cause for the condition at Poundbury (Rohnbogner and Lewis 2017).

Infectious disease

Infectious disease was almost exclusively observed at Bainesse Cemetery, with the exception of sinusitis, which was observed at both *Cataractonium* and Bainesse, but was more prevalent at Bainesse. This pattern cannot be explained by taphonomic issues since preservation and completeness were slightly worse at Bainesse compared with *Cataractonium*. Only evidence for long-lasting infections can be observed in archaeological skeletal remains (Roberts and Manchester 2005, 167). As such, it is possible that the individuals at Bainesse did not have a greater incidence of infection, but instead had better immunity to infection compared with those from *Cataractonium* (Wood *et al*. 1992).

Maxillary sinusitis was common at both *Cataractonium* and Bainesse and the prevalence of the condition overall was 44.7%, suggesting that almost half of all adults with accessible sinuses were affected. Only the crude prevalence rate of sinusitis was provided by Roberts and Cox (2003, 113), suggesting that 1.8% of the population had been affected by the condition in the Roman period. At Horncastle, the crude prevalence rate was much higher, with 38.5%, whereas at Lankhills it was 9.2%, with 22.5% of left and 30% of right sinuses being affected, while 33.3% of adults with sinuses were affected at Baldock.

Overall, slightly more than a third of male sinuses (37.5%) were affected, compared to two thirds of female sinuses (62.5%). The overall prevalence of the condition was similar at *Cataractonium* (37.5%) and Bainesse (44.8%), but only males were affected with the condition at *Cataractonium*, likely because only one female with sinuses was recovered. Sinusitis was observed in 50% of non-adults with sinuses from Bainesse, but only one adolescent from *Cataractonium*. The much greater prevalence in sinusitis in females compared with males might be related to general household pollution that

Roman women were likely more frequently exposed to compared with men, such as smoke from cooking fires, as well as dust (Roberts and Manchester 2005, 174–76).

Bone formation on the inner surfaces of the ribs may be caused by a variety of pulmonary infections, including pneumonia, chronic bronchitis and tuberculosis (Roberts and Cox 2003; Santos and Roberts 2006), as well as exposure to polluted atmospheres and inhalation of fungal spores (Aufderheide and Rodríguez-Martín 1998).

Four individuals at Bainesse and one individual from *Cataractonium* had inflammatory lesions on inner rib surfaces (15.6% of individuals with ribs). According to Roberts and Cox (2003, 114), 2.1% of individuals in the Roman period were affected with rib lesions. The crude prevalence rate of tuberculosis in the Roman period was 0.5% (Roberts and Cox 2003, 120). Lewis (2011) identified seven non-adults with the disease at Poundbury in Dorset, with 6.1% of non-adults in the population showing lesions for tuberculosis. However, it must be noted that rib lesions can have many other causes, including pneumonia and bronchitis. Rib lesions affected 11.6% of individuals with ribs at Baldock, suggesting a similar prevalence to that seen within the A1 scheme sample.

In three of these individuals, the condition could not be assigned to a specific cause (Skeleton 20477 from *Cataractonium*, adolescent; Skeleton 13188 from Bainesse, younger juvenile; Skeleton 12996 from Bainesse, possible African young middle adult male). Skeleton 12996 (Grave **140**) from Bainesse also suffered from infection of the leg (fibula) and heel bones, as well as showing evidence for *cribra orbitalia* and other pathological conditions. Skeleton 20477 also showed evidence for *cribra orbitalia*, as well as sinusitis. It is possible that these individuals suffered from tuberculosis or another pulmonary infection.

Skeleton 13188 (Grave **231**) was a young juvenile with possible rickets. It is feasible that the pulmonary infection meant that this juvenile had to stay indoors and thus developed rickets due to a lack of prolonged sun exposure.

The remaining two individuals with rib lesions were both from Bainesse (Skeleton 13168, young adult male; Skeleton 13080, young middle adult female) and are likely to have suffered from *hypertrophic pulmonary osteoarthropathy*. This is a condition that has been associated with lung cancer, although other forms of cancer can also be a cause (Ortner 2003, 354). While in modern populations, lung cancer is thought to be the main cause of *hypertrophic pulmonary osteoarthropathy*, chronic lung disease may have contributed to a greater number of cases in pre-antibiotic populations than today (Mays *et al*. 2002). An older adolescent at Baldock is also thought to have had the condition, as well as a young adult female from Roman Leicester (Oxford St and Newarke St; Keefe and Holst 2013d).

Endocranial (inner) lesions tend to be more common in non-adults than adults. Three skeletons (3.8% of individuals with skulls) had such lesions, including Skeleton 20957 (Grave **20955**, old middle adult male) from *Cataractonium*, and Skeletons 13060 (Grave **229**, perinate) and 12698 (Grave **202**, unsexed adult) from Bainesse. In children, causes for endocranial lesions include chronic meningitis, trauma, anaemia, neoplastic disease, scurvy and rickets, and tuberculosis (Lewis 2004; 2007). However, neither individual had any associated lesions that could provide further information on the causes of the condition. Skeleton 13060 from Bainesse, a late term foetus, had active inflammatory lesions on the inner and outer surfaces of the skull, which may be indicative of birth trauma, either through natural birth or attempts to aid birth using forceps.

Fifteen individuals from Bainesse and one individual from Low Street showed evidence for slight pitting on the outer skull surface (20% of skulls), indicative of lamellar bone. Causes for such lesions could include trauma, as well as inflammation of the scalp, perhaps as a result of head lice infestation. Head lice have been found on Roman sites, such as Poundbury Camp (Farwell and Molleson 1993, 178).

Eleven individuals (8.5% of all Roman skeletons analysed from Bainesse) had inflammation of their lower limbs, affecting 7.1% of all femora and 10.3% of all tibiae. In most instances, the lesions were indicative of healing (lamellar) bone, but in the case of Skeleton 12996 (Grave **140**) the lesions were active at the time of death. None of the individuals from *Cataractonium* had inflammatory lesions on the limbs; this may have been lost due to the larger number of non-adults, which usually exhibit fewer of these lesions. At Gloucester, the prevalence rates of inflammation on the legs was similar in the femora, with 10.5% of femora affected, but considerably more severe in the tibiae, with 28.9% of tibiae affected by inflammatory lesions. The majority of individuals with non-specific inflammatory lesions on the lower limbs were males. Redfern and Roberts (2005, 122) have also observed this in urban Roman populations and suggest that the military lifestyle might have exacerbated the development of these lesions on the legs.

In the population under investigation, it is clear that females appear to have particularly suffered from a polluted environment, perhaps related to cooking over fires, causing chronic sinusitis. Military lifestyle, on the

other hand, may have been responsible for the slightly more prevalent than average inflammatory lesions on the shins of male skeletons. Poor hygiene might have contributed to scalp inflammations, which were common at Bainesse.

Many infections leave no skeletal trace, such as diarrhoea, which would have been a common cause of mortality, especially in young children (Redfern and Roberts 2005; Lewis 2010). Movement of people and urbanisation would have increased the risk and incidence of infections (Redfern and Roberts 2005). However, Pitts and Griffin (2012, 272) found that overall adult health was worse in Roman rural settlements compared with their urban counterparts and have linked this to greater social inequality in rural settlements and poorer access to foods and medical treatment, with those rural populations connected by Roman roads showing a better health status than more remote rural populations. Evidence for parasites and intestinal worms has been found at a number of Roman sites (Allason-Jones 1999, 138; Redfern 2003; Mitchell 2017) and inhabited spaces closely shared with vermin and domestic animals would have carried disease (Redfern and Roberts 2005, 121). Health could also be affected by the proximity of dwellings to latrines and rubbish pits.

Five individuals suffered from more serious infections affecting the lungs. One child with infectious lesions also had rickets and it is possible that this was secondary to the infection, perhaps having to stay indoors during because it was sick and thus not being exposed to sufficient sunlight. However, the infectious lesions observed here were within the Roman norm and it is likely that access to foodstuffs and medical care were improved due to the connectivity of *Cataractonium* and Bainesse via Dere Street.

Trauma

According to Roberts and Cox (2003), 10.7% of the Roman population had incurred some form of trauma. At the A1 scheme sites, a total of fifteen fractures were observed in thirteen individuals (7.7%), while fractures affected 13.7% of the population at Lankhills and 14.1% of individuals at Gloucester. This suggests that fracture prevalence was relatively low within the sample population from the A1 scheme.

Notably, similar trauma was observed in both populations and affected the extremities and fibulae most commonly. Victims of interpersonal violence were not observed as such and most trauma was likely associated with accidents, though the palm bone fracture in the individual from Grave **78** may be related to hitting something or someone with a clenched fist. Skeleton 20475 (adult female from *Cataractonium*) had a relatively superficial healed depression fracture on her skull (right parietal; affecting 1.25% of skulls). Rather than being related to interpersonal conflict, Wedel and Galloway (2014, 139) suggest that this fracture is more likely to have been sustained in infancy. At Horncastle, an old middle adult female had sustained a depression fracture to the frontal bone, which was unhealed and had thus been caused around the time of the individual's death, while a mature adult male from Baldock showed evidence for a healed depression fracture to the frontal bone. At Lankhills, parietals of three individuals, including two females and a male, were affected by fractures. According to Roberts and Cox (2003, 153), three females and seven males from different cemeteries were affected by trauma to the parietals in Roman Britain.

At Bainesse, Skeleton 13135 (Grave **239**, old middle adult female) had a well-healed fracture of a lower rib (3.1% of individuals with ribs), which may have been caused by a direct blow or by a fall (Galloway 1999a, 107; Roberts and Manchester 2005, 105). The rib was the most fractured element at Lankhills, but it was rarely affected at the A1 and at Gloucester.

A possible crush fracture was recorded in a finger (intermediate hand phalanx) of Skeleton 13146 (Grave **197**, old middle/mature adult male), possibly causing an amputation to the distal hand phalanx. Two individuals from Lankhills had very similar injuries (Clough and Boyle 2010, 368).

Skeleton 13260 (Grave **17**, young middle adult male; from Bainesse) had a possible crush fracture of a right toe, perhaps as a result of something being dropped on the foot. This was also the possible cause for the fusion of two foot phalanges (toes) in Skeleton 20813 (indeterminate, old middle adult; from *Cataractonium*).

A palm bone (third left metacarpal) of Skeleton 12573 (Grave **78**, young middle adult female) showed evidence for a well-healed fracture (2.1% of third metacarpals), and Skeleton 20573 (Grave **20571**, old middle adult male) had sustained a fracture to another palm bone (left second metacarpal; 1.7% of second metacarpals). Secondary complications with this individual included joint degeneration and an ossified haematoma (blood clot). According to Wedel and Galloway (2014, 236), hitting with a clenched fist can cause metacarpal fractures. Metacarpal fractures were noted in a male adult from Gloucester, affecting the second and fourth left bones (Marquez-Grant and Loe 2008, 54).

A left tibia and fibula (shin bones) were fractured in a mature adult male from Bainesse (Skeleton 12731, Grave **87**), which had resulted in shortening of the affected

Figure 6.44: Bainesse Cemetery: Skeleton 13260 (Grave 17), spondylolysis of the fifth lumbar vertebra.

leg due to an overlap in the fractured bone fragments. Skeletons 20573 and 20957 (Graves **20571** and **20955**, both old middle adult males) from *Cataractonium* sustained fractures to the distal shafts of their fibulae (ankle). The latter individual also suffered from shortening of the fibula, while the bone had healed at an angle in Skeleton 20573. A total of 3.0% of fibulae and 0.9% of tibiae had sustained fractures. At Gloucester, fibula fractures were well-aligned (Marquez-Grant and Loe 2008, 55), in contrast to the fibula fractures seen within the A1 scheme population. There is limited osteological evidence for medical intervention in Roman Britain, although some instances have been reported in the literature (Redfern and Roberts 2005, 124), but it is clear that access to medical treatment in Roman Britain was very variable (Allason-Jones 1999, 144).

Hyperextension of the spine in young individuals (particularly athletes) can cause stress fractures of the lowermost vertebra, called *spondylolysis* (fifth lumbar vertebra; Dandy and Edwards 2003), which can be exacerbated in those individuals with a genetic predisposition to developing this condition (Aufderheide and Rodríguez-Martín 1998). Such fractures may cause lower back pain (Dandy and Edwards 2003). Three young middle adult males (2.3% of individuals) at Bainesse had *spondylolysis* (Skeletons 13260, 13275 and 13152; see Fig. 6.44), as well as Skeletons 20117 (Grave **20114**, young middle adult female) and 20957 (Grave **20955**, old middle adult male) from *Cataractonium* and Skeleton 7182 (Grave **7181**, young middle adult male) from Low Street (25.0% of fifth lumbar vertebrae). The crude prevalence rate for *spondylolysis* within the A1 scheme population was 3.6%, which is considerably higher than the mean Roman prevalence rate of 1.97% (recalculated from Roberts and Cox 2003, 152) and the prevalence rate at Gloucester. This suggests that the population may have been involved in activities that cause *spondylolysis*, which usually involve greater movement of the lower spine. The prevalence of *spondylolysis* has been shown to have been greater in rural than urban populations (Pitts and Griffin 2012, 260), which may explain the greater incidence of the condition here.

The interruption of the blood supply to a joint surface can be caused by trauma, which can cause a bone fragment to detach from the joint surface, termed *osteochondritis dissecans* (Roberts and Manchester 2005, 121). Skeleton 13175 (Grave **18**, unsexed adult; from Bainesse) had *osteochondritis dissecans* in the ankle (distal right tibia), while the elbows (distal humeri) were affected in Skeletons 20813 (Grave **20812**, indeterminate, old middle adult) and 20116 (Grave **20114**, mature adult male) from *Cataractonium*. Skeleton 20395 (Grave **20418**, young adult male) had likely *osteochondritis dissecans* in his big toe. The crude prevalence rate of *osteochondritis dissecans* in the Roman period was 0.4% (Roberts and Cox 2003, 153), which was much lower compared with that from the A1 scheme (2.4%).

Skeleton 20190 (Grave **20159**, unsexed adult) from *Cataractonium* showed evidence for soft tissue damage to their right ankle, but evidence for a fracture was not observed.

Schmorl's nodes are lesion on the upper or lower surfaces of the bodies of the vertebrae that are thought to be caused by pressure and subsequent rupture of the intervertebral discs (Aufderheide and Rodríguez-Martín 1998). Due to the poor preservation, Schmorl's nodes were not seen at the Other Sites and were observed in only two skeletons at *Cataractonium*. At Bainesse, they were much more prevalent in males than females and affected the lower spine more severely in females, while the central and lower spine in males were affected equally. The true prevalence rate for all Roman skeletons within the A1 scheme population was 12.2%, which is lower than the Roman mean of 17.7% (Roberts and Cox 2003, 147), but comparable with Horncastle with 12.3%. At Baldock, a true prevalence rate of 23.6% was observed, and males were less severely affected compared with females, while at the A1, the condition was considerably more prevalent in male spines (16.6%) compared with female spines (5.4%). This trend was also observed at Lankhills, though in much more severe form, with a greater number of male vertebrae affected by Schmorl's nodes.

Age-related conditions

Joint disease is related to age, activities, occupation, and genes, and can be secondary to pathological conditions and trauma (Rogers 2000; Roberts and Manchester 2005). As previously stated, degenerative joint changes (DJC) are the most commonly observed of all the joint diseases and are characterised by both bone formation (osteophytes)

and bone resorption (porosity) at and around the joints (Rogers 2000). Since the criteria for degenerative joint changes and osteoarthritis have not yet been standardised and are therefore not always identical, it is difficult to compare the condition accurately between populations.

Overall, joint disease of the bodies of the vertebrae was recorded in 40.1% of adult vertebrae, with male and female vertebrae affected almost equally (40.0% versus 38.7%). In females, degenerative joint changes were very slightly more prevalent in the neck area compared with other areas of the spine, while the central spine was most severely affected in males. As expected, the joint degeneration increased with age, with the changes being most prevalent in the mature adult age group.

A total of 19.4% of the articular facets of the vertebrae were affected by degenerative joint changes. In these joints, female vertebrae were much more severely affected than male vertebrae (26.7% versus 16.8%) and while the distribution of lesions affected all parts of the spine almost equally in males, females were most severely affected in the lower part of the spine, in the lumbar vertebrae. It is possible that this was related to the stresses placed on the lower spine during pregnancy.

Other joints throughout the skeleton were also affected by spinal joint disease. The distribution of male and female joints affected differed considerably. In males, the joints most severely affected were the shoulder, wrist, hand, elbow and hip in decreasing order, while in females, degeneration of the elbow, wrist, knee, joint between the collar and breast bone and hip was most common.

The hips and knees, being the weight bearing joints of the lower limb, frequently degenerate in modern populations (Roberts and Manchester 2005), with Aufderheide and Rodríguez-Martín (1998) suggesting over 50% of those over 60 years of age may suffer from degeneration of the hips. Trauma, occupation and advancing age can all contribute to joint degeneration of the upper limb joints (shoulder, elbow and wrist) (*ibid*.). Degeneration at the sternoclavicular joint (the joint between the breastbone and collar bone) is not uncommon because it is involved in all movements of the upper arm, being one of the few joints connecting the arm to the torso (Yood and Goldenberg 1980, 232). This joint was also commonly affected in the A1 scheme population.

Osteoarthritis (OA) is a degenerative joint disease that only affects those joints where some degree of movement is possible and tends to be associated with older age, body weight and genes, but can also be secondary to trauma or pathological conditions (Larsen 1997; Roberts and Manchester 2005). It was only diagnosed here in those instances where bone to bone contact had led to eburnation (a shiny polished surface) of the joint, although osteophytes, porosity and cysts might also be present.

Osteoarthritis of the articular facets in the spine was observed in 7.2% of vertebrae and showed a very clear increase with age, with mature adults being much more severely affected than any other age group, particularly in females. Osteoarthritis of the spine was much more prevalent in females compared to males, with 4.9% of male vertebrae and 13.6% of female vertebrae affected. The distribution of lesions also differed between the sexes, with the lesions concentrated on the central

Figure 6.45: Bainesse Cemetery: Skeleton 12652 (Grave 186), osteoarthritis (eburnation) on the right distal femur and right proximal tibia.

spine in males and the lower spine in females, the latter reflecting the pattern of degenerative joint changes.

The distribution of osteoarthritis of the joints throughout the remainder of the skeleton did not mirror the patterns recorded for degenerative joint changes exactly, with both sexes affected most commonly in the shoulder, followed by the hips. In males, the breastbone/collar bone joint was also commonly affected, while the elbow was third most commonly affected joint in females. The knee and ankle showed a similar prevalence in osteoarthritis in males and females.

A mature adult female (Skeleton 12652, Grave **186**) from Bainesse had such widespread osteoarthritis and degenerative joint changes (Figs 6.14 and 6.45), that she may have experienced reduced mobility. She had lesions suggesting she spent much time sitting and developed lesions consistent with pressure sores (Cho *et al*. 2004; Gowland 2016a).

Diffuse idiopathic skeletal hyperostosis (DISH) is a condition that has been associated with Type II diabetes, obesity, high calorie intake and age. Skeleton 13146 (Grave **197**, old middle adult/mature adult male) had the characteristic 'candle-wax' appearance along the right side of the thoracic spine, but only two vertebrae were fused, unlike Roberts and Manchester's (2005, 160) required fusion of four adjacent vertebrae, so only a tentative diagnosis of DISH could be suggested. The individual also had slight forward curvature of the spine (kyphosis) and fusion of the hip and tail bone. The crude prevalence rate of possible DISH here was 0.6%, which is lower than the British Roman mean of 1.3% (Roberts and Cox 2003, 139).

Roman oral health

The Roman diet would have been much more varied than the food eaten in Iron Age Britain because of immigration, as well as increased trade with Continental Europe, Africa and the Near East, and agricultural intensification (Bonsall 2014, 1280). This would have resulted in a more diverse cuisine.

Overall, 99 adults (21.2% females, 34.3% males, 44.4% unsexed) and 31 non-adults had dentitions present for analysis, with 1,590 adult teeth and 1,134 adult tooth positions, as well as 593 non-adult teeth (235 deciduous and 358 permanent) and 123 non-adult tooth positions.

Dental plaque concretions (calculus) were recorded in 46.9% of all adult teeth, with male teeth most severely affected (50.7% of teeth), while a third of female teeth (34.7%) and those of unsexed adults (29.8%) had deposits of dental calculus. Calculus normally increases with age. In this population, the deposits were most widespread in the old middle adults, which might have been due to age-related tooth loss in mature adults, which would have caused loss of teeth with associated deposits. The concretions were less prevalent at Bainesse (43.9% of teeth) compared with *Cataractonium* (54.5% of teeth) or indeed at the Other Sites (61.6% of teeth).

The prevalence rate of calculus was similar to the Roman British mean, with 43.6% of teeth affected (Roberts and Cox 2003, 132). At Lankhills, the prevalence rate of dental calculus was also similar (48.0%), but it was twice as common in females compared to males. At Healam Bridge, the prevalence rate was slightly higher, with 55.5% of adult teeth affected and male teeth showing a higher prevalence (73.7%) compared with female teeth (47.9%), which is similar to the A1 scheme population. Higher still was the prevalence rate at Gloucester (66.7% of teeth) and males were slightly more likely to have deposits of calculus than females. The prevalence rates at Horncastle (95.1% of adult teeth) and Baldock (83.1% of adult teeth) were much higher than the A1 scheme population and males and females were equally affected by the concretions. The evidence suggests that, despite dental plaque concretions being observed in almost half of the adult teeth, the prevalence rate was not particularly high when compared to many other Roman populations.

At the A1 scheme sites, calculus was observed in 10.2% of non-adult teeth affected, which was considerably lower than the 59.4% non-adult prevalence rate at Gloucester and below that noted at Ancaster (18.7% of non-adult teeth affected).

Calculus prevalence is related to poor oral hygiene, as well as consumption of foodstuffs high in proteins and it is possible that the males here enjoyed a more protein-rich diet than the females, leading to increased calculus prevalence, which has also been reported by others, such as Bonsall (2014, 1291). Alternatively, the Roman females may have practiced better oral hygiene. It is likely that old middle adults were most affected due to increased ante-mortem tooth loss in mature adults.

Cavities (caries) were seen in 8.1% of adult teeth, including 9.6% of male and 10.6% of female adult teeth and increased in prevalence with age as expected. Cavities were most common at the Other Sites (12.3% of teeth), followed by Bainesse (8.4% of teeth) and least common at *Cataractonium* (5.9% of teeth). The prevalence of caries compares well to the Roman mean (7.5%; Roberts and Cox 2003, 132).

The prevalence rate was comparable to that from Ancaster (7.5% of adult teeth), but lower than at Gloucester (11.4% of adult teeth), Horncastle (11.4% of adult teeth) and Healam Bridge (17.8% of adult teeth). In

most other populations, there was a distinction between the prevalence rates of male and female teeth affected, unlike the A1 population. At Horncastle and Gloucester, male teeth were more severely affected by the lesions, while at Lankhills and Healam Bridge, female teeth had more cavities.

Only one non-adult had caries in one permanent tooth, affecting 0.2% of non-adult teeth, which was considerably lower than at Gloucester, where 7.9% of non-adult teeth were affected.

The evidence suggests males and females consumed similar quantities of cariogenic foods and that their diet contained a limited quantity of sweet foodstuffs, such as honey and dried fruits, although processed carbohydrates can also contribute to the development of cavities.

Dental abscesses were noted in 2.0% of adult tooth positions and affected twice as many males (2.5% of tooth positions) as females (1.1% of tooth positions). This was unexpected, since caries are often causative factors in dental abscess development (Dias and Tayles 1997) and the prevalence of cavities was very similar in males and females. The old middle adult age group had the greatest prevalence of abscesses. The lesions were equally prevalent at *Cataractonium* and Bainesse, but none were observed at the Other Sites.

The prevalence of dental abscesses within the A1 scheme population was almost half the Roman mean of 3.9% (Roberts and Cox 2003, 137), but higher than at Gloucester (0.7%), where males also had more lesions than females. At Baldock and Horncastle, the prevalence rate was higher, with 4.6% of tooth positions affected in both populations and males more commonly affected compared with females.

Ante-mortem tooth loss (the loss of teeth during life) was observed in 9.3% of adult tooth positions, including 8.4% of female and 9.1% of male tooth positions. It affected mature adults considerably more than the younger age groups, which likely explains the peaks in dental disease observed in the old middle adults, as many teeth with cavities, for example, were likely lost in the mature adult age group. The prevalence rate of ante-mortem tooth loss was similar at Bainesse (9.1%) to *Cataractonium* (10.6%), but was not observed at the Other Sites, probably because very few tooth positions survived there due to the poor preservation of the remains.

The prevalence of ante-mortem tooth loss was lower than the Roman mean (14.1%; Roberts and Cox 2003, 136), at Lankhills (15.4%) and Horncastle (15.9%), but higher than at Gloucester (5.8%).

Periodontal disease was observed in 65.1% of adults with tooth positions present. This is much higher than the Roman mean of 29.3% (Roberts and Cox 2003, 137), though it is possible that this rate was calculated including all adults, not only those with tooth positions. Periodontal disease is often linked to a high prevalence of dental calculus, which was not seen here. However, increased periodontal disease has also been linked to soft foodstuffs, general health, poor oral hygiene and also genetic predisposition and is thus more complex than simply affected by diet (Bonsall 2014, 1293).

A total of 1.6% adult teeth were chipped. The prevalence was much lower compared with Baldock, where 4.4% of adult teeth were chipped (Keefe *et al*. 2015b). Skeleton 20416 (Grave **20417**, old middle adult male) from *Cataractonium* had a fracture to an upper first premolar, affecting 0.06% of adult teeth. This was much lower than the prevalence at Baldock, where 0.6% of teeth were fractured. Skeleton 12580 (Grave **154**, young middle adult male) from Bainesse had unusual wear on the teeth that suggested they may have been used for habitual activities.

Teeth were not present or unerupted in 2.6% of tooth positions and four teeth were impacted. The tooth most commonly not present/unerupted was the lower right third molar (wisdom tooth). The other wisdom teeth were also commonly not present.

It is clear that oral health at *Cataractonium* and Bainesse was similar to, or often better than, comparable contemporary populations from Britain.

According to Bonsall (2014, 1280), some researchers have suggested that there was a distinction between the diet consumed by males and females during the period, with males consuming more higher status foods than females. However, this has not been observed in research of Roman skeletons using carbon and nitrogen isotopes (*ibid*., 1280). When analysing dental disease in Roman populations, Bonsall (*ibid*.) found no significant oral health differences between the sexes. Homogeneity of oral health was also seen here, with males having very slightly worse dental health than females. The reasons for this might be that access to different foods also depended on status and was thus not available to all (Redfern and Roberts 2005, 124; Rohnbogner and Lewis 2017). Pitts and Griffin (2012) have suggested that the picture is much more complex, and settlement type also had an effect on dental health, with lower prevalence rates of dental disease in urban compared to rural populations, although settlement connectivity as a result of Roman infrastructure somewhat mitigated against this trend due to better access to foods in rural roadside settlements.

ROMAN CREMATION BURIALS

The overall number of Roman cremation burials from Bainesse, *Cataractonium* and Other Sites was small, with 30 Roman cremation burials excavated (17 at Bainesse, nine at *Cataractonium* and four at Scurragh House). However, it is notable that the character of the burials varied considerably between the different locations.

The greatest proportion of urned burials was found at *Cataractonium*, with over half of the burials being urned (55.5%), while only a third (29.4%) of cremation burials at Bainesse were placed in an urn and none at Scurragh House.

Preservation did not appear to be affected by the presence of an urn, unlike at other Roman cemeteries, where this has been observed (Thompson *et al*. 2016, 834). However, the best level of preservation was recorded at *Cataractonium*, where all bone assemblages were in an excellent or good condition, while bone preservation ranged from good to poor at Scurragh House and moderate to poor at Bainesse.

The weight of bone included in the burial also differed considerably. However, it must be noted that it is not possible to calculate the expected quantity of bone weight for non-adult or multiple burials and since many of the burials fell into one or both categories, the proportion of expected weight present could not be determined. Weight ranged from 72.4g to 143.1g at Scurragh House, with a mean of 106.9g, while it was considerably higher at Bainesse, with a range of 9g to 1,274.3g and a mean of 150.7g. The cremated bone weight was higher still at *Cataractonium*, with a range of 150.0g to 6,532.7g and a mean of 1,124.9g. However, when the multiple burial containing five individuals is excluded, the mean weight is 448.9g.

Notably, at Bainesse, it was found that there was a direct correlation between age and weight, with non-adult cremated bone assemblages weighing approximately half of the adult bone assemblages. However, such correlations were not observed at *Cataractonium* or at Scurragh House.

The maximum fragment size varied considerably between burials, with the largest fragments recorded at *Cataractonium* (mean maximum fragment size 42.7mm), followed by Scurragh House (32.1mm) and Bainesse (28.5mm).

The severity of fragmentation was recorded in every assemblage using a stack of 10mm, 5mm and 2mm sieves. The severity of fragmentation varied considerably between the three sites, with most bone at *Cataractonium* and Bainesse being found in the 5mm sieve category, while the greatest quantity of bone at Scurragh House was in the 2mm sieve category (Fig. 6.46). However, the quantity of bone in the 5mm sieve category was almost the same as at *Cataractonium*. Notably, there was a significant amount of bone in the 10mm sieve category at *Cataractonium*, while this was considerably smaller at Bainesse and Scurragh House.

Smaller fragment size means that bone elements are more difficult to identify. As such, it was unsurprising that fewer bone fragments could be identified at Scurragh House when compared with Bainesse and *Cataractonium*. Generic long bone fragments were well represented at all sites and skull fragments were also well represented. It is understandable that skull fragments were one of the most abundant skeletal elements, since the cranial vault is very distinctive and easily recognisable, even when severely fragmented, and often forms a large proportion of identified bone fragments in cremated remains (McKinley 1994). Axial elements, upper limb and lower limb bones were almost equally represented at all three sites.

There were significant bone colour differences between the cremation burials. The cremated bone assemblages at Bainesse were almost all white or white and grey, with one exception that displayed a considerable range of colours (Fig. 6.47). At Scurragh House, the remains in two burials were mostly white or grey, while the other two burials showed a much greater colour variation, and at *Cataractonium* most of the cremated bone assemblages displayed a considerable range of colours.

It was not possible to estimate age in two of the assemblages from Scurragh House. Remarkably, around half of the cremation burials at all sites contained the

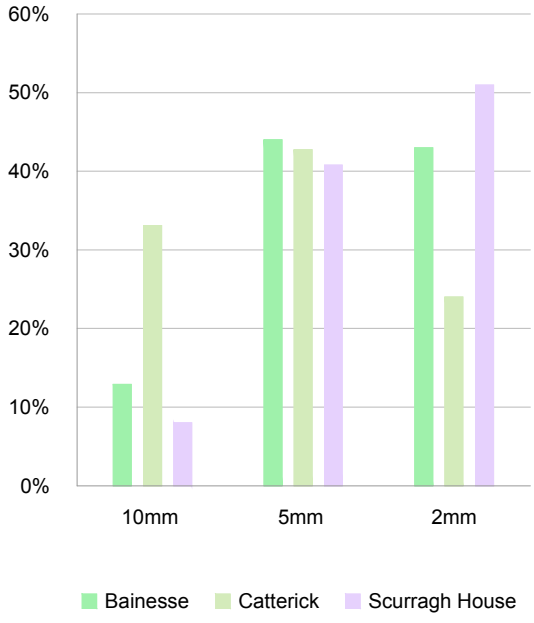


Figure 6.46: bone fragment size distribution across all cremations from the A1 scheme.

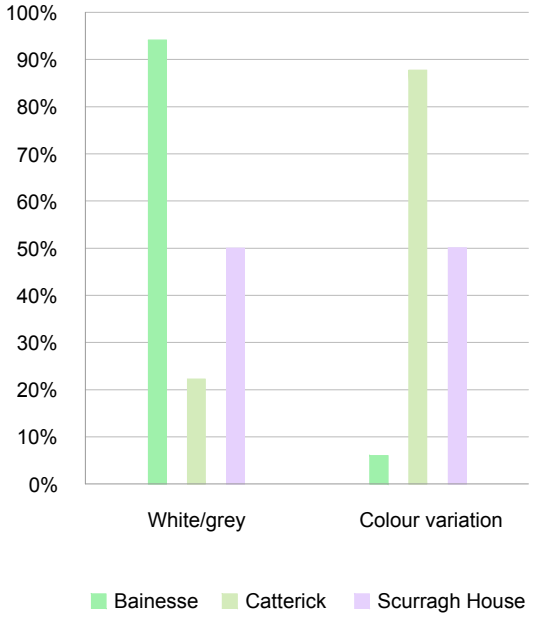


Figure 6.47: colour differences between cremated bone assemblages.

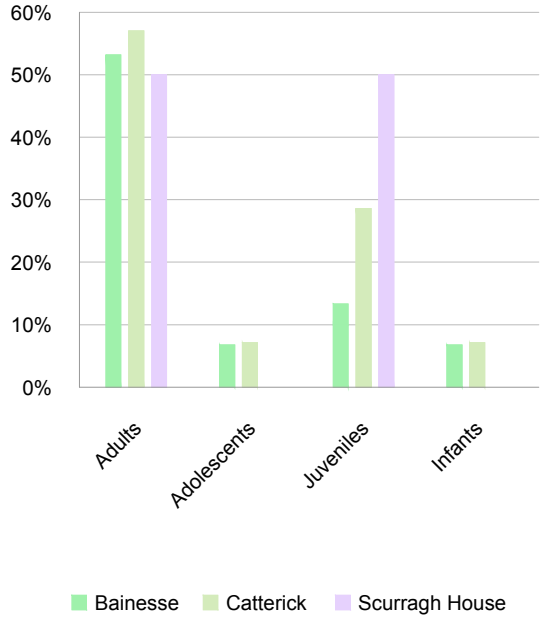


Figure 6.48: age distribution in the A1 scheme cremation burials.

remains of non-adults. At Scurragh House, the proportion of adults in the assemblage where age could be estimated was 50%, at Bainesse 53.3% and at *Cataractonium* 57.1% (Fig. 6.48). Only one adolescent and one infant each were identified at Bainesse and *Cataractonium*; however, the representation of juveniles was much greater at all sites. It must be considered here that there were only four cremation burials at Scurragh House and age could only be assessed in two of these, somewhat skewing the figures.

Double burials were not identified at Bainesse or Scurragh House, but a double burial containing an infant and a young juvenile was found at *Cataractonium*, as well as a multiple burial, possibly a *bustum*, containing the remains of at least three adults, one younger juvenile and an older juvenile. The evidence from this possible *bustum* suggests that one individual, recovered from the base of the burial, was cremated in situ, while further cremated individuals who had been cremated elsewhere were deposited on top of this. *Busta* were only found at *Cataractonium*, comprising one of the nine cremation burials excavated. No difference in terms of osteological data or cremation techniques could identified between the *bustum* and ordinary cremation burials.

CHAPTER 7
THE POTTERY

Ruth Leary, Gwladys Monteil, David Griffiths, Chris Cumberpatch and Alex Gibson

INTRODUCTION

Ceramics recovered from burial contexts included grave goods placed in the grave, pyre goods placed on the pyre during the cremation, and grave goods from earlier graves disturbed by the grave cutting. In addition, some vessels may derive from rituals associated with the burial itself or with subsequent memorial rites, which are attested to in Roman literature such as those described by Ovid during the Roman festivals of the Parentalia and Rosalia, when family and friends of the dead left offerings at the grave (Toynbee 1971, 63–4). Ovid recommended modest offerings to the dead including a scattering of corn, some salt, and bread soaked in wine that should be set on a potsherd in the middle of the path, rather than the provision of extravagant offerings (Ovid 1931, 535–40).

Fragments of pottery were also present in the graves that derived from underlying features and earlier settlement in the area occupied by the burials. These sherds are only useful in that their date pre-dates that of any grave that cuts them, and so they provide a *terminus post quem* for that grave. They do not, of course, date the grave in the same way as placed grave goods do. This pottery is not given detailed treatment here, but summaries are given in the section dealing with other pottery from grave fills and cemetery features (see below). Full details are also available in Appendix G, to be found on the ADS.

The ceramics were examined and catalogued by five contributors. Ruth Leary catalogued the coarse pottery, except for the amphora and mortarium sherds, which were catalogued by David Griffiths; Gwladys Monteil catalogued the samian; Chris Cumberpatch catalogued the Iron Age and Roman hand-built pottery; and Alex Gibson catalogued the Bronze Age pottery. Each specialist's report has been integrated here with authorship indicated as appropriate. As the bulk of the cemetery pottery was coarsewares, which were predominantly examined by Ruth Leary, authorship is indicated within the section on Roman pottery by initial where contributions from others have been incorporated into the discussion (e.g. CC). The pottery analyses follow guidance in *A Standard for Pottery Studies in Archaeology* (Barclay *et al*. 2016). Full details of the methodologies used are available in Appendix F, which can be found on the ADS.

REPORT STRUCTURE

The discussion of the pottery vessels and their relation to burial contexts, where possible, follows the site and field order outlined in Chapters 2 (prehistoric burials), 3 (Bainesse Cemetery and surrounding area), 4 (*Cataractonium*), and 5 (Roman and later burials from other sites). Pottery that was identified as grave or pyre goods is presented in full by grave and has been allocated a catalogue number (Cat. no.) and Recorded Find (RF) number. Figure numbers are provided to refer the reader to illustrations, which appear in Chapters 2–5 alongside the individual grave catalogues. The chapter concludes with a discussion of the pottery recovered from ancillary features and its relevance to the dating of the burials.

PREHISTORIC BURIALS

Chris Cumberpatch and Alex Gibson

No pottery was recovered from the prehistoric cremation burials at Killerby (Field 259), Scotch Corner (Field 258), or Catterick Racecourse (Field 174). The details of the hand-built pottery recorded from the Bronze Age funerary site at Bowbridge Lane (Field 145) are presented below. However, the analysis of the pottery showed that there was little, if any, Bronze Age pottery. A discussion of the Bowbridge Lane site can be found in Chapter 2.

BOWBRIDGE LANE (FIELD 145)

The pottery assemblage from Bowbridge Lane that was associated with human remains (primarily burnt bone; see Chapter 2) comprised 365 sherds, weighing 1.122kg and represented a maximum of 363 vessels. The very low average sherd weight (3.1g) is indicative of the high degree of fragmentation within the assemblage. Most of the sherds (n=268; 612g) were recovered from the fill (**10002**) of Grave **10003** and possibly resulted from the same vessel. The data are summarised in Table 7.1. The plan of the funerary area at Bowbridge Lane is shown in Figure 2.10.

Context **10015**, part of a layer (**10015**/**10029**) overlying natural deposits in the central part of the excavated area, contained seven small, heavily abraded sherds of hand-built pottery, all of which were tempered with igneous rock fragments. With an average sherd weight of just 2.5g, it is difficult to see this material as a significant component of the feature. The same context also

Table 7.1: hand-built pottery from the cremation burials and funerary related features at Bowbridge Lane.

Context	Fabric	No	Wt (g)	ENV	Part	Form	Decoration	Date range	Sample	Notes
10002	H2 Coarse rock	131	583	131	Base & Body sherd	Hollow ware	U/Dec	LBA	-	Cremation urn. Grave 10003
10002	H2 Coarse rock	61	27	61	Fragments	U/ID	U/Dec	LBA	-	Date range based on radiocarbon date.
10002	H2 type	76	2	76	Crumbs	U/ID	U/Dec	LBA	AA	
10007	H2 Coarse rock	1	11	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10007	H2 Coarse rock	1	6	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	AA	-
10007	H2 Fine quartz	8	2	8	Fragments	U/ID	U/Dec	PRIA – Roman	AA	-
10011	H2 Fine quartz & rock	3	37	1	Base	Hollow ware	Smoothed ext	PRIA – Roman	-	-
10011	H2 type	1	0.5	1	Fragment	U/ID	U/Dec	PRIA – Roman	-	-
10011	H4	6	3	6	Body sherd	U/ID	U/Dec	PRIA – Roman	AA	-
10015	H2 Coarse rock	2	8	2	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10015	H2 Rock	1	4	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10015	H2 Rock	1	5	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10015	H2 type	3	1	3	Body sherd	U/ID	U/Dec	PRIA – Roman	-	-
10020	H2 Coarse rock	1	12	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10029	H4	1	1	1	Body sherd	U/ID	U/Dec	PRIA – Roman	-	-
10048	H2 Quartz & rock	5	21	5	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10048	H2 Quartz & rock	1	2	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10048	H2 Quartz & rock	2	1	2	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10048	H4	3	2	3	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10048	H2 Fine quartz	1	3	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	May be Early Bronze Age (AG)
10050	H2 Fine quartz & rock	1	2	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10066	H2 Fine quartz	1	21	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	AA	-
10107	H2 Quartz & rock	48	317	48	Body sherd	Hollow ware	U/Dec	PRIA – Roman	AA	-
10107	H2 Quartz & rock	3	43	3	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10122	H2 Fine quartz	1	0.5	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	-
10122	H2 Quartz & rock	1	4	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	AA	-
10126	H2 Rock	1	3	1	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-	May be Early Bronze Age (AG)
	Total	**365**	**1122**	**363**						

Key: ENV = maximum estimated number of vessels; U/ID = unidentified; U/Dec = undecorated; PRIA = pre-Roman Iron Age.

contained a very small piece of fired clay. To the west of a later palisade trench, layer **10029** contained just one small, heavily abraded sherd in an H4 fabric. The layer was cut by pit **10127**, the fill of which (**10126**) contained a single small (3g) sherd of hand-built pottery. AG has tentatively interpreted this sherd as more consistent with Bronze Age vessels than those produced in the Iron Age or Roman periods.

Stony layer **10048** (with **10085** and **10125**), which overlay **10015**/**10029**, contained 12 small sherds of hand-built pottery in a variety of fabrics. The majority were of H2 types but three small sherds in a vesicular H4 fabric were also present. The sherds were abraded, some very heavily, and there were no rim sherds or other diagnostic fragments. AG notes that one sherd from this layer also appeared more consistent with Bronze Age vessels than those produced in the Iron Age or Roman periods. However, caution should be exercised when attributing hand-built vessels to chronological periods as, especially at a local level, their fabric and form varied little, with undecorated body sherds, as is the case at Bowbridge Lane, being the least chronologically distinctive.

Four features cut through layer **10048** but only one of these, pit **10108**, contained a significant quantity of hand-built pottery, which probably represented a single vessel (context **10107**). As in the case of the vessel from fill **10002** (discussed below), the remains of the pot were highly fragmented and abraded. Both the rim and base were absent, leaving 51 body sherds that weighed 360g. The sherds were divided into two groups, the smaller of which appeared to be slightly coarser than the latter. It is suggested that the sherds came from one or, at the most, two vessels. The absence of a rim precludes even the most general dating and it is not clear from the surviving fragments whether the vessel was one of the normal range of domestic types or whether it once had features specific to funerary use. The fill (**10066**) of a second pit (**10067**), which also cut layer **10048**, included a single sherd in an H2 type fabric that was also effectively undatable. Finally, to the south of context **10048**, pit **10123** produced two small abraded sherds from its fill (**10122**).

Grave **10003** (Figure 2.11) was the only feature identified as a formal cremation burial. Its fill (**10002**) contained the lower part of a badly fragmented pot of undetermined form in a coarse rock-tempered (H2) fabric (Cat. no. 1). This was associated with a quantity of calcined bone and charcoal fragments, which had presumably been contained within the pot when it was placed in the pit (see Chapter 2). As with the vessel from pit **10108** (described above), there was nothing in the character of the fabric to set the vessel apart from domestic pottery and the absence of a rim precluded any attribution to an existing vessel type. As a result, no useful date range could be suggested for the vessel.

In contrast, a nearby pit (**10021**) contained just a single sherd of pottery from its fill (**10020**), alongside a small deposit of calcined bone, which is suggested to be a 'token' deposit taken from a funeral pyre (Chapter 2). This raises the possibility that the sherd represented a complete vessel in the same sense that the cremated material may have represented the complete body. However, such a suggestion is difficult to substantiate in the absence of cross-context joins or similar evidence. A direct comparison of the sherds from context **10002** and the sherd from context **10020** suggested that, while the fabrics were very similar, they probably came from different vessels. However, given the degree of variability possible in such fabrics, some caution must be exercised in making such statements.

To the west of pit **10021**, a second group of pits showed a similar pattern of deposition. Pottery was noted in the fill (**10050**) of pit **10051** but was absent from the other pits (**10041**, **10043** and **10065**) that formed this group. The sherd from context **10050** was small and abraded, and for all practical purposes not datable. It was accompanied by charcoal, calcined bone and charred hazelnut shells.

It is notable that while the pits discussed above contained pottery alongside burnt bone, other pits containing probable pyre debris (including **10080**, **10089** and **10017**) do not seem to have contained any pottery. This suggests that there was no necessary association between pottery and cremated remains. Whether there is any evidence of structure or system within the contexts containing human remains and/or other classes of material is beyond the scope of this chapter.

The fill (**10007**) of pit **10009** contained two body sherds and eight small fragments of pottery. All were featureless body sherds and the majority were heavily abraded. The variety of fabrics suggested that at least two or three vessels were represented, but there was no indication of vessel forms. Small quantities of calcined bone were associated with the pottery, as were carbonised plant remains and charcoal.

The fill (**10011**) of a second pit (**10012**) contained a flat base and seven small body sherds and fragments, again associated with a variety of burnt material. The small quantity of material precluded any extensive analysis of the pottery. If there is any significance to the contents of these pits, it is likely to be in the combinations of material deposited in them rather than in the presence of pottery alone.

DISCUSSION

Interpreting the assemblages from the cremation burials and funerary-related features at Bowbridge Lane presents something of a challenge, given the small size of the context groups and the individual sherds themselves. Some of the vessels seem likely to have been associated with cremation rites, either as possible containers (notably the shattered vessels from Grave **10003** and possibly pit **10108**) or as fragments that were perhaps discarded or deposited alongside cremated bone and burnt botanical material, which may have been part of a rite or ritual practice. Overall, the small size of the assemblages and the fragmentary and abraded nature of the sherds preclude any elaborate interpretation and, in most cases, it would be difficult to argue against purely materialistic or functional explanations for the presence of these sherds in contexts containing human remains.

ROMAN BURIALS

Ruth Leary, Gwladys Monteil, Chris Cumberpatch and David Griffiths

The pottery considered here was recovered from the graves and funerary structures, with settlement features only assessed for dating and broad-brush comparisons. Altogether, only a small quantity of pottery was recovered from burial contexts and most of the ceramics accompanying burials came from the Bainesse Cemetery, with small numbers from cremation burials and inhumations associated with *Cataractonium*. No indisputable ceramic grave goods or pyre goods were recovered from Scurragh House and no funerary ceramics came from Scotch Corner.

BAINESSE CEMETERY AND SURROUNDING AREAS (FIELDS 163C, 163E AND 159A)

Pottery vessels were used as grave goods within 15 inhumation burials in the cemetery at Bainesse (Field 163C), and a further five burials included pots redeposited from other graves within their backfills. In the cremation burials, five of the bone assemblages were buried in pottery urns, and burnt fragments of vessels used as pyre goods were included in three cremation burials. Fragments from a second, unburnt vessel were found inside two of the urns. These may represent vessels used during the cremation and burial rites that had not been burnt on the pyre. Altogether, there are 45 vessels associated with the inhumations and cremation burials (Table 7.2). Of these, 43 vessels came from graves or grave-like features, although this number includes incomplete vessels that have been interpreted here as pyre goods in the case of the cremation burials, and grave goods in the case of the inhumations. Twelve vessels came from cremation burials and 31 from inhumations. Two further vessels from penannular gully **12353** are likely to be redeposited pyre or grave goods.

Pottery wares and vessels associated with funerary activity

A narrow range of wares and vessels was selected for use during funerary rites and burial procedures (Table 7.3). The most common ware groups at Bainesse were black-burnished ware (BB1), fine and moderately sandy grey wares and Nene Valley colour-coated wares. No amphorae or mortarium wares were associated with funerary activity and both samian and hand-built vessels were uncommon.

Table 7.2: summary of Roman coarseware grave goods from graves on the A1 scheme.

Field/assemblage type	Vessel count	No	Wt (g)	Rim%
Bainesse Cemetery (Field 163C)	**45**	**827**	**8795.6**	**2523**
Grave goods	20	206	3797.2	1654
Smashed grave goods	5	211	1472.7	440
Redeposited grave goods	5	58	330.5	188
Pyre goods	5	137	876.3	86
Urn	5	128	2064.8	106
Pyre goods/grave goods	3	49	169.1	20
12353 redeposited grave goods	1	33	46.5	29
12353 redeposited pyre goods	1	5	38.5	-
Brough Park (Field 172)	**5**	**244**	**889.3**	**57**
Pyre goods/grave goods	1	9	29.2	-
Pyre goods	4	235	860.1	57
Fort Bridge (Field 176FB)	**1**	**1**	**401.4**	**-**
Urn	1	1	401.4	-
Brompton West (Field 177/8)	**2**	**8**	**243.8**	**5**
Urn	1	7	233.5	-
Urn lid	1	1	10.3	5
Scurragh House (Field 210/211)	**3**	**22**	**120.5**	**64**
Redeposited grave goods	2	9	55.9	47
Redeposited grave goods	1	13	64.6	17
Total	**56**	**1102**	**10450.6**	**2649**

Table 7.3: grave pottery by ware and vessel type (by vessel count).

Field/vessels	BB1	Crambeck grey ware	Fine grey ware	Sandy grey ware	Hand-built pottery	Calcareous-tempered ware	Nene Valley CC	Fine ox ware	Sandy ox ware	Fine ox ware with CC	Trier black-slip ware	Samian	Total
Bainesse Cemetery totals	**8**	**-**	**10**	**7**	**1**	**-**	**11**	**1**	**1**	**1**	**3**	**2**	**45**
Beaker	2	-	1	2	-	-	11	1	-	1	3	-	21
Medium necked jar	6	-	3	4	1	-	-	-	1	-	-	-	15
Small jar	-	-	5	-	-	-	-	-	-	-	-	-	5
Small jar/beaker	-	-	-	1	-	-	-	-	-	-	-	-	1
Unguent pot	-	-	1	-	-	-	-	-	-	-	-	-	1
Cup	-	-	-	-	-	-	-	-	-	-	-	2	2
Cataractonium totals	**6**	**-**	**-**	**2**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**8**
Lid	-	-	-	1	-	-	-	-	-	-	-	-	1
Medium necked jar	5	-	-	1	-	-	-	-	-	-	-	-	6
Small jar	1	-	-	-	-	-	-	-	-	-	-	-	1
Scurragh House totals	**-**	**1**	**-**	**1**	**-**	**1**	**-**	**-**	**-**	**-**	**-**	**-**	**3**
Beaker	-	1	-	1	-	-	-	-	-	-	-	-	2
Small jar	-	-	-	-	-	1	-	-	-	-	-	-	1
Total	**14**	**1**	**10**	**10**	**1**	**1**	**11**	**1**	**1**	**1**	**3**	**2**	**56**

BB1 AND RELATED WARES

Eight black-burnished ware (BB1) vessels were included in the graves. All were from Dorset, except for a possibly locally made copy of a BB1 beaker in a rather grey burnished ware (Cat. no. 3, Grave **36**). These wares were hand-built. The majority were medium-necked jars, commonly used for cooking, as evidenced by the sooting often found around the mouth and shoulders of jars from domestic sites. Chronologically, the use of BB1 jars is well established from their incidence in dated contexts on the military frontiers of the Antonine Wall and Hadrian's Wall. The degree of eversion and splaying of the rim, the slimness of the body and the angle of the burnished decorative lattice—acute, right-angled or obtuse—are all accepted as characteristics that are chronologically diagnostic. The earliest jars in the 2nd century AD have upright rims, often decorated with a burnished wavy line on the rim in the early to mid-2nd century, and always with acute lattice burnish on the body. Jars in the 3rd century are slimmer, with strongly curving and finally sharply everted rims by the late 3rd century. These jars initially have right-angled lattice burnish, but all have obtuse lattice at some point during the first quarter of the 3rd century. The zone of lattice burnish becomes increasingly narrow as the lattice becomes more obtuse. Another chronologically diagnostic indicator is the occurrence of wiping and rilling on the inside of the 3rd century jars, as well as their thinner walls. At Bainesse, two BB1 jars were placed in inhumation Graves **64** and **201**. Both had obtuse lattice burnish and curving everted rims and fit a mid-3rd century date range. A fragmentary jar with everted rim from Grave **261** may be slightly earlier than these vessels, but two BB1 jars, one similar to those from the inhumations and one with a later, more splayed rim, were recovered from Grave **263**. A jar base from Grave **273** was also of 3rd century date.

The small beakers in this group included a handled beaker copying BB1 in Grave **44** and fragments of small beaker used as pyre goods in Grave **257**. The complete handled beaker is of a type dating to the mid- or late 2nd century but possibly continued to be used into the 3rd century. The fragmentary vessel from Grave **257** is of similar date range.

These BB1 vessels all come from Dorset except the grey handled beaker, which closely copies BB1 types. BB1 jars and beakers were common at Trentholme Drive Cemetery, York (Gillam 1968, figs 25-8 and fig. 30), and their uses as both urns and ancillary vessels are paralleled at the 3rd century cremation cemetery at Brougham (Evans 2004, 337).

Grey wares

As well as the BB1 jars, there are also a number of jars in local grey wares that copied both BB1 and BB2 jars. The latter of these two groups was traded from the south-east of England, around Colchester and the Thames Estuary, to the north from c.AD140. These grey ware jars are wheel thrown and combined characteristics of BB2 jars with cavetto rims and BB1 jars with obtuse lattice. Three jars in fabric GRB11 were recovered from Graves **81**, **199** and **205**, with a further example in a finer grey ware fabric (GRA6) from Grave **256**. The body and rim profiles compare with BB1 and BB2 vessels of the 3rd century, perhaps early to mid-3rd century, and the obtuse lattice, present in the vessels from Graves **81** and **205**, confirms this date range. One GRA6 jar from Grave **267** has acute lattice decoration, but its everted rim and body form suggest it copied a late 2nd to mid-3rd century BB2 jar form. In addition to these medium-mouthed jars, in the same way as with the BB1 jars discussed above, a range of small beakers were also made in grey ware and, where closely datable, seem to be contemporary. Some of these are very simple, undecorated small jars/beakers with no decorations, such as those from Graves **64**, **172** and **177**. Two examples, from Graves **181** and **240**, are decorated with vertical burnished lines and compare closely to BB1 medium-necked jars of the mid-2nd to mid-3rd century (Monaghan 1987, type 3J3).

Three types were represented only by single examples. Fragments from a fine grey ware (GRA6) indented beaker were found in Grave **257**. This form was made at Malton in the 3rd century AD (see Corder 1950, type 9a; Croom and Bidwell 2012, type 9, dated to the early 3rd century) but the fabric suggests a local source. A grey ware unguent pot from Grave **181** is a particularly appropriate grave good and probably contained oil, ointment or perfume that were commonly used in the preparation of the body for burial (Cool 2004, 439 and 441). A GRB2W rouletted jar or beaker is much earlier than the other vessels from the cemetery and is a type found from the late 1st to 2nd century at *Cataractonium*.

Hand-built pottery (CC)

The evidence does not appear to indicate that the deposition of hand-built pottery was a regular part of burial rites or practices. The majority of sherds were small, often abraded and occurred largely as residual elements in the backfill of graves or other contexts containing human bone. In Bainesse Cemetery, Grave **260** (see below), there did seem to be a direct relationship between the hand-built pottery and the interment of cremated remains. There was little to set the vessels apart from normal domestic pots and the numbers of hand-built pots seems low in comparison to the numbers of cremation burials, suggesting that there was no regular association between cremation and the use of hand-built pottery. Hand-built pots do not seem to have been associated with any of the inhumations.

Fine wares (samian by GM)

Only two samian vessels were recovered as ancillary vessels, both accompanying inhumations within Bainesse Cemetery. Both are Central Gaulish cups. Seven joining sherds representing a complete Dr.46 form cup from Lezoux were recovered from Grave **36**, while a second a complete Dr.33 form cup from Lezoux was recovered from Grave **161**.

Colour-coated beakers from potteries in the lower Nene Valley, Cambridgshire, made up the majority of this group, with small amounts of black-slip beakers from Trier, Germany, as well as one possibly local product. The Nene Valley forms include: two plain-rim beakers with grooves and rouletting within the grooves; two plain-rim, grooved beakers; one plain-rim beaker with *en barbotine* scroll decoration and one with lattice decoration *en barbotine*; three curved everted rim, indented beakers, one with scale decoration; a bag beaker with late cornice rim; and a teardrop shaped beaker with white painted scroll decoration. These types indicate a date in the early or mid-3rd century, after the popular vessels of the mid- to late 2nd/early 3rd century, such as Hunt cups and other cornice rim beakers, had declined, but before funnel-rim indented beakers appeared. The profile of many of the plain-rim beakers are narrow and tall rather than wide and stumpy, and Gillam dates this type later in the sequence (Gillam 2005). The curving rims of the indented beakers fit the earlier 3rd century and the white painted teardrop shaped beaker is a copy of imported black-slip beakers and probably dates to the mid-3rd century. The body form is common amongst the Central Gaulish imports (Symonds 1992, group 11), but the white paint is generally a later decorative motif on the beakers from Trier, which lack the bung-shaped base. The black-slip beakers are all Symonds' type 1 globular beakers with long necks and rouletted decoration. No painted Trier beakers were present, suggesting a date earlier in the export date range. One small, rather oddly shaped beaker, with a grooved body and lipped rim (Grave **229**), may be a locally produced colour coated ware, or it may in fact be Nene Valley Colour Coated ware that has been adversely affected by burial conditions.

Oxidised wares

Oxidised wares were rare. One waisted beaker with upright rim from Grave **201** is similar in form to examples from the Nene Valley c.AD200–250 (Perrin 1999, fig. 61, nos 169–71). Since overslip decoration is not found on

these Nene Valley beakers, Perrin has suggested that they might have declined in use during the second half of the 3rd century. Gillam dates an example with an upright rim that is similar to the example from Grave **201** to the mid- to late 3rd century (Gillam 1968, 80, no. 184, fig. 31 no. 9; 1970, no. 51).

Bainesse chronology

The grave pots associated with inhumations are all broadly contemporary, dating to the early to mid-3rd century, with a small number of 2nd-century vessels. The two samian cups of 2nd-century date, Grave **44** with its 2nd-century GBB1 handled beaker, a small jar from Grave **172** and the jar and unguent pot from Grave **181** all fall outside of this range. It is relevant to note that the samian cup from Grave **36** was well worn from use, and therefore may have been old when deposited in the grave. In the case of the small jars from Graves **172** and **181**, both are simple everted-rim jars and are difficult to date without some sort of diagnostic decoration. The vertical burnish decoration on the jar from Grave **181** compares with BB2 vessels of the mid-2nd to mid-3rd century. Therefore, the assemblage of ceramic grave goods should be given a date range of c.AD150–250, with most graves datable to the early to mid-3rd century either by additional associated pottery or stratigraphically earlier pottery.

The cremation burials that have associated ceramic vessels are predominantly of early to mid-3rd-century date. In the case of Grave **269**, the ceramic vessel (Cat. no. 39) appears to be of an earlier date. This vessel is in a fabric and form dating to the late 1st to 2nd century and, on the basis of preliminary phasing at *Cataractonium* (Agricola Bridge, Field 176), this may be narrowed down to the late 1st to early 2nd century. As such, it contrasts with all the other cremation burials dated by their ceramics. However, the coin associated with the vessel in Grave **269** is an *as* of Antoninus Pius (AD138–161) but, due to its wear, is considered to have probably still been in use in the early 3rd century (see Chapter 8). Therefore, this vessel may also have been old when deposited. Thus, burial of the inhumed and the cremated dead with ceramic grave/pyre goods appear to have been contemporary rites at Bainesse Cemetery.

The pottery from the backfills indicated that inhumation Grave **13586** (Field 163E) and inhumation Graves **13460** and **13420** in Field 159A date from the mid- or late 3rd to 4th century AD, and so are a little later in date when compared with those graves from the cemetery. The pottery from the pit cut by inhumation Grave **13435** (Field 159A) gives a similar late date for that grave in or after the late 3rd or 4th century AD.

Inhumations and ancillary vessels from Bainesse Cemetery

In the inhumations, 30 vessels were identified as potential grave goods. Twenty of these were thought to be deliberately deposited in the grave in which they were found. A further five vessels appear to have been smashed into or on top of the coffin (two vessels in Grave **64** and three in Grave **229**) and were incomplete. In the remaining five cases, the pots were fragmented and incomplete and it was uncertain whether they were redeposited grave goods, had been originally deposited in a fragmentary condition or if they derived from graveside activities relating to the burial they were found in or from some other burial.

Vessel types and size

Twenty-one beakers or small jars of beaker size were identified, with two samian cups, six jars and an unguent pot. Unusually, no other vessel types were used as grave goods. Thirteen beakers and two cups were produced in fine wares. There was one, probably locally produced, grey burnished ware BB1 handled beaker, five GRA6 beaker/small jars and one GRB2 small jar. The six jars comprised two in BB1, one in GRA6 and three in GRB11.

The majority of the beakers and small jars were associated with child burials, regardless of size of the vessel. Two of the larger beakers/small jars were found in association with adult graves, one of which was of a female (Grave **239**) and contained a second beaker. Three of the young juvenile graves had larger beakers (Graves **181**, **201** and **240**). In Grave **181**, one of the accompanying vessels was an unguentarium as opposed to a drinking vessel. In Graves **201** and **240** the larger beakers were accompanied by smaller beakers. The samian cups came from Graves **36** and **161**, an adult and a grave with no surviving bones respectively. In one outstanding case (Grave **229**), three beakers were found smashed within a grave containing an adolescent (12–14yrs old) and a neonate or foetus.

All of the measurable beakers and small jars were rather small compared to Cool's (2006, fig. 15.5) plot of the late 2nd- to 3rd-century beakers, the majority being less than 100mm high and having a rim diameter of 70mm or less. Some of these complete and near-complete beakers and small jars were noticeably smaller than others. It would appear that where two vessels of the beaker/small jar type were present in a grave, one would have held c.150ml and the other c.200ml. These perhaps represent different functional groups. The smaller beakers were also finer in fabric, being colour coated wares, while the taller small jars with wider rims were grey wares. In some cases, particularly the Trier black-slip beakers, the rims are barely wide enough to drink out of, suggesting that

they may be from graves belonging to children. Indeed, the osteological analysis confirmed that these beakers were associated with a child aged 1–5yrs old. All of the beakers with rim diameters of 50mm or less were in the graves of 1–5yr olds, a neonate and a young adolescent female, apart from one grave that contained a female aged 36–45. It is worth noting that a similar situation was observed at the roughly contemporary cremation cemetery at Brougham, where both samian cups and colour coated beakers were particularly associated with children (Cool 2004, 362–3). At Bainesse, there were only two samian cups, of forms Dr.33 and Dr.46, which are discussed further below.

Samian and funerary rites at Bainesse (GM)

Only two samian vessels were recovered as ancillary vessels in Bainesse Cemetery, both of which were associated with inhumations (Graves **36** and **161**). The vessels were Central Gaulish cups that displayed signs of use, especially that recovered from Grave **36**. Both vessels were clearly old when deposited.

The use of samian vessels as grave goods with inhumations was a relatively rare occurrence in Britain (Willis 2005, section 9.2; Cool and Leary 2012). While the explanation is partly chronological, since samian ware had all but ceased to be imported when inhumation became the most current practice, a few examples of 'old' samian vessels used as grave goods with inhumations have been recorded (Wallace 2006, 262–3). In the region, two examples are known from York, both of which were flanged bowls that show extensive sign of wear and were likely to have been old when deposited. One of these comes from Trentholme Drive cemetery (Simpson and Birley 1968, fig. 17, no. 5 with skeleton no. 38) and the other from Hungate (Monteil 2014, grave set 47757). The two vessels from Bainesse Cemetery provide welcome additions to this relatively rare practice. While samian vessels were often deliberately 'mutilated' or altered before being placed in graves (Willis 2005; Biddulph 2006b; Cool and Leary 2012), at Bainesse neither cup presents evidence of such practice.

None of the samian recovered from the grave fills at Bainesse Cemetery is burnt and only one sherd shows evidence of burning in Field 159A (Grave **13435**). There is a little burnt samian material from ancillary features within Bainesse Cemetery, though this is difficult to relate to the cremation cemetery, since of four vessels showing signs of burning, two come from the subsoil (**4959**) and one from cleaning of the top fill of enclosure ditch **12286/12520**. The remaining vessel was recovered from the lower middle fill of ditch **4965** and is a decorated Dr.37 form bowl from Les Martres-de-Veyre by the Trajanic potter X-2. The bowl also presents evidence of repair. The form was rarely used as a pyre good (Cool and Leary 2012, 308) and is therefore likely to be the result of domestic activities.

Numbers of vessels in graves

Of the 20 graves (Table 7.4) with ceramics at Bainesse, 12 contained only one vessel, six contained two vessels and two contained three vessels. Graves were more likely to have contained two or three beakers/small jars than any other type of vessel and these graves were more likely to contain young children than any other age group (Table 7.5).

Table 7.4: Bainesse Cemetery: numbers of vessels and ceramic vessel types included in individual burials (quantified by number of graves).

	No. of vessels in grave		
Vessel	**1**	**2**	**3**
Beaker/small jar	5	4	2
Cup	2	-	-
Jar	4	1	-
Unguent pot	-	1	-

Table 7.5: Bainesse Cemetery: age of individuals buried with ceramic vessels.

	No. of vessels in grave		
Age	**1**	**2**	**3**
Foetus/neonate and adolescent	-	-	1
Non-adult	1	-	-
Older juvenile	1	-	-
Younger juvenile	2	4	1
Adult and non-adult	-	1	-
Mature adult (46+)	-	1	-
Adult (18+)	2	-	-
Unknown	5	-	-

Position of vessels in graves

The locations of the grave pots in relation to the coffin/individual were examined and the majority had been placed into the grave (Table 7.6). In Grave **229**, three beakers seem to have been broken into the grave, perhaps onto the top of the coffin. In Grave **64**, the vessels were broken and incomplete, and apparently lay outside the coffin. The same is true of the jar in Grave **81**. It is very difficult to ascertain whether these were parts of vessels used in graveside rituals, perhaps for libations, were redeposited grave goods from earlier burials or derived from graveside ritual within the cemetery. The relationship between the burial and the samian cup in Grave **161** is uncertain as no human bone survived, and the relationship between the burial and the incomplete

beaker sherds in Graves **163**, **172** and **215** was also unclear. In Grave **201**, the broken and incomplete beaker was recorded as within the grave and it is thought to have been a placed vessel complementing that on the other side of the head but disturbed by the digging of ring ditch **12500**.

In terms of the position of the grave pots in relation to the body, the most common location was at the head end, regardless of vessel type, with the majority of these vessels recorded as being inside the coffin. Only two vessels, both beakers within Grave **239**, were placed near the middle of the grave in the pelvis area.

Table 7.6: Bainesse Cemetery: ceramic vessel position in relation to coffin.

	Position in relation to individual				
Vessel	**Inside coffin**	**In fill**	**No Coffin**	**Not known**	**Outside coffin**
Cup	-	1	-	1	-
Jar	3	-	-	1	2
Unguent pot	1	-	-	-	-
Small jars/ beakers	11	3	2	-	5

Broken and incomplete pots and other conditions

Complete or near-complete pots were present in Graves **36** (samian cup), **161** (samian cup), **177** (grey ware beaker), **181** (grey ware beaker and unguent pot), **219** (two Trier beakers, one with a section of rim detached) and **240** (Nene Valley beaker). As mentioned above, three beakers were found smashed into Grave **229**. These comprised a plain Nene Valley bag beaker, a rouletted Nene Valley beaker with plain rim, and an OBA3CC plain-rim beaker. All of these were found broken in the grave but were almost complete, missing only small parts of the rim and/or body. The breaks were not recent, but it is unclear whether the missing sherds were removed in antiquity, or as a result of post-depositional and/ or recovery processes. In Grave **239**, two Nene Valley beakers were placed in the grave. These were found on their side; one was crushed and the other was incomplete, missing part of its rim.

The jars were all in a broken and incomplete condition. In two cases, parts of the vessel were found in other features. Sherds of the pot in Grave **205** had been redeposited in Grave **206**, while that in Grave **201** had been disturbed by digging of ring ditch **12500**, the fills of which also contained additional sherds of this vessel. The vessel found in Grave **199** was nearly complete and appears to have been broken within the grave, perhaps crushed by the decaying coffin. The jar in Grave **256** had been placed, although the upper part was not present, and no human bone was associated with this feature. The jars in Graves **64** and **81** were fragmented, with sherds missing. Hilary Cool (Chapter 8) also noted fragments of glass being selected for burial in Grave **183**. It may be that parts of vessels used during the funeral rites were selected for inclusion in the grave. Both vessels in inhumation Grave **64** appeared outside the coffin and were also fragmentary; it is possible that they may derive from such a ritual. During excavation, it was considered that the vessels in Grave **64** were redeposited grave goods from another burial and that those in Grave **81** had been smashed into the grave.

Two of the beakers had part of the rim detached and one had a small abraded area missing on the outside of the rim, apparently through usage. The rim of the unguent pot was also rather bashed and abraded. The areas of detached rim noted on the beaker in Grave **201** and the Trier beaker in Grave **219** are both V-shaped and very clean, although with some soil adhering. The soil suggests that these are ancient rather than modern breaks, while the V-shaped breaks might indicate deliberate cuts in the manner described by Biddulph (2006b, 31–3 and 73) at Pepper Hill cemetery, Kent. Such 'mutilation' is interpreted as some form of ritual killing of the vessels before burial, perhaps to facilitate their journey to the afterlife. One grey ware (GRA6) beaker had two spalled areas on the girth and a Nene Valley beaker also had a spalled area. It is not possible to be sure when such spalling occurred, and these could also represent some form of ritual treatment. Parts of the rim were missing from the GBB1 handled beaker in Grave **44**, the small grey ware (GRA6) jar in Grave **177**, the Nene Valley beakers in Graves **191**, **201** (although, in this case, this may be due to damage caused by the digging of ring ditch **12500**) and **215**, and the Nene Valley scroll beaker from Grave **239**. Part of the base of the beaker in Grave **64** was also missing, and in Grave **163** body sherds from the Trier beaker were missing. These latter examples of breakage may have been part of ritual killing of the vessel, in a similar way to the missing rim sections discussed above. A small chip was present on the rim of the otherwise complete beaker from Grave **240**. Finally, an incomplete small jar in Grave **172** may be a disturbed accompanying vessel, since this grave was cut by a field boundary ditch.

A number of explanations may be proposed for these 'missing' sherds. Old, damaged pots may have been selected for use, perhaps those familiar to the deceased. In particular, this might be suggested for the worn samian cup from Grave **36**. The vessels may also have been used in graveside rituals and their rims damaged during those ceremonies. Some of the vessels may be disturbed from earlier burials or rites, or perhaps damaged by

later features. However, in most cases their position in the graves was thought to indicate that they had been deliberately placed to accompany the dead, implying their incomplete condition was desirable. Some of the damage may have occurred prior to their selection as funerary items, but it may be that some the missing sherds were curated in some way by mourners in memory of the dead.

Scorching was identified on the handled grey (GBB1) beaker and on one side of a black-burnished ware (BB1) jar; the latter was also sooted. GBB1 and BB1 vessels are by far the most commonly sooted and burnt vessels in domestic settlements and there is no compelling evidence to assume their condition is due to anything more than domestic usage. The wear identified inside the Dr.46 form samian cup is of a similar character. The selection of two small grey ware jar/beakers that were distorted in some way, may indicate the use of seconds as grave goods (Cat. nos 11 and 12). One of these vessels had a very uneven base, which would have made it very unstable indeed.

Cremation urns and pyre goods

The pottery from the cremation burials can be divided into three groups: pottery sherds from the grave fills, which appear to be residual; cremation urns; and pyre goods. The first are useful only in terms of providing a *terminus post quem* for the backfilling of the grave. The urns are strictly defined as pots that contained the burnt bones of the dead, while the pyre goods category includes burnt fragments, usually of small jars or beakers, which are often incomplete. It is suggested that this last group represents vessels thrown or placed on to the pyre as part of the funerary rites and gathered up with the bones for burial. They could also theoretically include pyre goods from earlier cremations that had been incorporated with a later burial or accidentally burnt residual pottery from the earlier phase of occupation in the area.

Five cremation deposits were urned (Graves **260**, **261**, **269**, **271** and **273**). All five cremation assemblages were contained in jars of a different fabric. One was a hand-built grey gritty H2 quartz jar (Grave **260**); one was a sandy oxidised (OAB1) jar base (Grave **261**); one was a near-complete grey ware (GRB2W) rouletted small jar (Grave **269**); one survived as a jar base in a finer grey ware (GRA6; Grave **271**); and one was a black-burnished ware (BB1) jar (Grave **273**). In Grave **269**, the jar was almost complete when excavated, with only a section of rim missing. Likewise, the hand-built pot in Grave **260** was also nearly complete. In the other cremation burials, the urns were incomplete; in Graves **261**, **271** and **273**, only the base and lower body sherds were present, due to truncation by ploughing.

The cremation urns were mostly unburnt. The one from Grave **260** was more oxidised on one side; however, this was a hand-built pot, which are not always fired evenly throughout. Therefore, the oxidisation could have been a result of production methods rather than anything caused by being included on a pyre. The paucity of burnt cremation urns implies that they were not usually put on the pyre, although one vessel may have been scorched on account of being stacked beside it, similar to what Evans (2004, 358) has suggested occurred at Brougham.

The jar from Grave **269** is likely to be the earliest of the urns. It belongs with the neckless everted-rim jars of the late 1st to early or mid-2nd centuries AD and was rouletted all over its body. The profile is most unusual, with its widest part being just above the base (see Fig 3.191). Normally, such vessels are quite globular or ovoid in shape. This vessel has the narrow mouth of the globular type rouletted jars/beakers but appears to have sagged, perhaps during the drying process or firing. Certainly, the pronounced dent outside its lower body confirms its character as a second, although not an unusable waster.

The putative pyre goods, by contrast, are small black-burnished, grey or Nene Valley jars or beakers in BB1, GRA13, GRB27, NV1 and OBB fabrics, as well as a single grey ware jar (GRA6). This last vessel, which was recovered from Grave **267**, is included as a pyre good because of its partially oxidised condition; the fragmented and dispersed nature of the sherds suggest that it did not function as a cremation urn. The other vessel forms comprised a small black-burnished ware (BB1) beaker, a grey ware (GRB27) indented beaker/jar, a Nene Valley folded beaker with an everted rim, the base of a small grey ware (GRA13) jar and a small sherd from a hand-built neckless everted-rim jar or beaker. All were in a burnt and fragmented condition, except for the grey ware (GRA13) base. They came from the fills of cremation Graves **257**, **267**, and **271**. In Grave **257**, two of these beakers/small jars were present, while in Graves **263** and **269** burnt sherds of jars were also present, some of which may be additional pyre goods. Only one of these vessels was in fine ware and all the coarsewares were of a larger size than those identified amongst the grave goods from the inhumations below. Even the fine ware (scale) beaker had a larger rim diameter than most of the beakers recovered from inhumations.

It is admittedly difficult to be certain that the putative pyre goods are related to the burials in which they are found. They could have been inadvertently scooped up with ashes from a well-used pyre site and belong with earlier cremation burials or possibly redeposited in the backfilling of the grave. Twenty-two vessel groups from Bainesse Cemetery and the immediate area were

scorched, burnt or oxidised to some extent. Of these, eleven came from the cremation burials, six from the inhumations (including the vessel remains that were recovered from both ring-gully **12500** and Grave **201**), one from penannular gully **12353** and a further four from settlement ditches. The four from the settlement ditches were bowls, a vessel type not otherwise found in the cemetery features at this site and these included samian vessels. They date from the late 1st and early 2nd century AD, and thus pre-date the other ceramics from the cemetery. Bowls and dishes have been found in cemeteries and related to pyre side activity (Polfer 2000, fig. 3.5), and it is possible that these few bowl sherds are all that remains of this phase of the burial process. However, there are no cremation burials of this date. The cremated bone assemblages that have been radiocarbon dated to this period have been provided a later date due to their stratigraphic position or by the pottery in their fills; this supports the modelled dates for the early phase of cemetery use (see Chapter 10). It is thus more plausible that these burnt bowls are domestic in character. Four of the scorched vessels from the inhumations are BB1 jars with one BB1 handled beaker. The remaining two vessels were jar bases in OBC4 and OAB1 fabrics, but these may both be burnt and oxidised examples of grey wares fabrics GRC and GRB. Black-burnished ware (BB1) vessels are by far the most commonly found type in a burnt and scorched condition, so their occurrence in the inhumations is unremarkable. It is uncertain whether the oxidised ware (OBC4 and OAB1) jar bases were burnt. The scorched beakers and small jars in the cremation burials, by contrast, appear to have been deliberately selected forms, presumably functioning as libation vessels. Thus, the concentration of scorched sherds within the cremation deposits and their particular vessel type (i.e. beakers) strongly suggests that these are the remains of vessels used during the funerary rites that were thrown or placed on the pyre and later gathered up with the burnt human remains.

Table 7.7: Bainesse Cemetery: nos of vessels from cremation burials (=urn).*

Grave no.	Jar	Jar/ Small jar	Beaker	Small jar	All
257	-	-	1	1	2
260	1*	-	-	-	1
261	1*	1	-	-	2
263	3	-	-	-	3
267	1	-	1	-	2
269	-	1*	-	-	1
271	1*	-	-	1	2
273	1*	-	-	-	1
Total	**8**	**2**	**2**	**2**	**14**

Whether some of these sherds originated from burials outside of those cremation pits they ended up in is a question that cannot be easily answered. Only three cremation burials have ceramic pyre goods (Graves **257**, **263** and **267**). The second small jar base from Grave **271** may also be a pyre good, but this cannot be conclusively proven, as it is not burnt. In cremation Grave **257**, sherds from two vessels were identified; a GRB27 folded beaker and a BB1 beaker, both of which are burnt and partially oxidised. These were both recovered from sampling. In Grave **263**, one burnt sherd from a small everted-rim jar or beaker may be from the pyre and two BB1 jars were also recovered from this cremation burial. In cremation Grave **267**, 44 sherds of a NV1 folded beaker were found, many of which were burnt, and this grave also included partially oxidised GRA6 everted-rim jar.

The pottery from the cremation burials in the cemetery demonstrates that both urns and small jars/beakers were being used during the cremation process (Table 7.7). The urns containing human remains were generally unburnt and apparently had not been put on or close to the pyre. Conversely, the small jars/beakers were almost all burnt and are likely to have been placed on the pyre at some point during the burning of the body. It appears that these vessels either shattered on the pyre, after which only a portion of the sherds were collected up and then deposited into the cremation burial along with the burnt bone, or they were intentionally broken after being on the pyre and only some sherds were selected for inclusion in the cremation burials. All of the burnt jars/beakers were fragmentary and broken prior to their inclusion in the grave and while poor recovery from the pyre or token sherd selection is considered to be the most plausible explanation for their incompleteness, the possibility that this is related to post-depositional disturbance cannot be ruled out.

Where ceramics were present, the non-adult cremation burials were provided only with urns, whereas adults also included small jars/beakers as pyre goods. This contrasts with the treatment of these age groups in the inhumations (Table 7.8). Compared to the small jars and beakers associated with the inhumation, those from cremation burials were generally larger in size. While the beakers/small jars that formed pyre offerings were too fragmentary to measure volume and height, if we use the rim diameter as a proxy for size (Table 7.9), even the fine ware beaker was larger than those from inhumations. Thus, although the small jars were used for adult cremation burials, as opposed to those of children, only the larger vessels were being selected as appropriate for inclusion.

Table 7.8: Bainesse Cemetery: vessel types and age of skeleton.

Age	Beaker	Cup	Jar	Small jar	Small jar/beaker	Unguent pot
Foetus/neonate and adolescent	3	-	-	-	-	-
Juvenile	2	-	-	-	-	-
Younger juvenile	5	-	3	4	-	1
Older juvenile	-	-	1	-	-	-
Non-adult	1	-	-	-	-	-
Adult and non-adult	-	-	1	-	1	-
Adult (18+)	2	1	-	-	-	-
Old middle adult (36–45)	2	-	-	-	-	-
Unknown	-	1	1	-	1	-
Total	**15**	**2**	**6**	**4**	**2**	**1**

Table 7.9: Bainesse Cemetery: rim diameter of grave goods and pyre goods.

	Rim diameter (mm)																
Vessel	**35**	**45**	**50**	**60**	**6.5**	**70**	**90**	**99**	**100**	**120**	**130**	**140**	**150**	**160**	**170**	**180**	**Unknown**
Cremation burials																	
Jar	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-	1	4
Small jars/ beakers	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	3
Jar/Small Jar	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Inhumations																	
Cup	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Jar	-	-	-	-	-	-	-	-	2	-	1	-	-	-	1	1	1
Unguent pot	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Small jars/ beakers	-	2	6	5	1	5	1	-	-	-	-	-	-	-	-	-	-

Ring ditch/penannular gully groups

Two ring ditches (**12500** and **12353/12332**) belonged to the cemetery phase. In the fill of ring ditch **12500**, a sherd from a Central Gaulish Dr.18/31 form from Les Martres-de-Veyre came from tertiary fill **12338** and two BB1 sherds from grooved-rim dish with intersecting arcading burnish of early 3rd-century type (Gillam 1976, no.73) came from fill **12345**, along with a further BB1 scrap. The lower fill (**12425**) contained an OBA1 rouletted beaker body sherd and two rim and body sherds from a BB1 everted-rim jar with obtuse lattice of mid-3rd century date (Gillam 1976, no.8). This vessel displayed sooting inside the rim and was scorched on the outside of the lower body and slightly on the base. These fragments form part of the same vessel as that found in Grave **201**.

In ring ditch **12353/12332**, 49 sherds from a Nene Valley (NV1) plain-rim scroll beaker that can be dated to the first half of the 3rd century, and 11 sherds from the base and lower body of a burnt 3rd-century grey ware (GRB1) jar with vertical burnish lines are likely to relate to cemetery activity, perhaps belonging with the central urned cremation deposit in Grave **273** or the later unurned cremated bone assemblage in Grave **274**, which has no associated ceramics.

Cemetery-related vessels in other features

The majority of the pottery from the settlement ditches located to the west of the cemetery in Field 163C dates the use of these features and the occupation of the structure group **12920** to the early 2nd century. However, the rim of a 3rd-century black-burnished ware (BB1) jar from the terminal fill (**12519**) of **12520**, a tiny Nene Valley (NV1) scrap from the lower fill (**12371**) of ditch **12368**, and the rim of a wide-mouthed GRB30 jar from the upper fill (**12372**) of this ditch sit outside of this. These can all be explained as late fill finds that had been introduced later as the underlying fills settled, aside from the NV1 scrap, which is tiny (0.2g) and may be present in the lower fill due to bioturbation.

Structure group **12920** (Figure 3.3) contained no pottery that suggested a date later than the early 2nd century. A single black-burnished ware (BB1) sherd came from the

secondary fill of posthole **13230**, while rusticated ware came from the fill (**12920**) of posthole **13348**. Samian sherds dated to c.AD70–110 came from fill **13313** of posthole **13245** and fill **13230** of posthole **13228**. In primary fill **13259** of posthole **13258**, a rim sherd from a grey ware (GRA6) bead-rim hemispherical bowl, copying samian form Dr.37, has a broad upper zone similar to types dating from the Hadrianic or early Antonine period. As these sherds may have all entered the postholes after the disuse and collapse of the building, a date in the late 1st to early 2nd century is possible. However, it should be noted that, in all, the coarsewares from the settlement suggest an early 2nd century start, since the earliest pottery types, particularly the oxidised wares found Agricola Bridge (Field 176EC) and Brompton East (Field 179), reeded-rim bowls and early flagons, are uncommon or not present at all.

When the coarse pottery from the non-cemetery features in Field 163C is compared with those from the cremation burials and inhumations, it is very clear that the assemblages are completely different. The range of fabrics and vessel types from the settlement is far wider, presenting a normal profile of bowls, dishes, and flagons, with small amount of mortaria and amphorae, while the grave and pyre goods are dominated by jars, mainly comprising small jars and beakers (Figure 7.1). Unlike other sites where similar analysis has been done, although the pottery from the non-cemetery features contrasts markedly with that from the funerary features, the date range of the pottery suggested most of it pre-dated the cemetery at Bainesse and its vessel profile is consistent with a secular domestic character.

Cemetery pottery by grave

Inhumations

Grave 36 (GM)

A Dr.46 samian cup had been placed towards the foot end of the grave. It was recovered at a level 0.2m above the bottom of the grave, suggesting that it had been placed after back filling had commenced. The vessel was made in Lezoux (Central Gaul) and can be dated to AD120–200. The internal surface of the cup was worn from use and, while complete, had broken into seven pieces between its placement and its recovery. Cat. no. 2, RF705, Figure 3.28. Placed grave good.

Grave 44

A GBB1 handled beaker, consistent with Gillam's (1976) no. 27, and dated to the mid-2nd century. Holbrook and Bidwell (1991, 94–5) also date this form to the Antonine period and note that in the North they were less common after the late 2nd century. This vessel had been placed inside the coffin with the individual in Grave **44**. Part of the rim was missing, the handle was scorched, and surface cracking was evident on the vessel body. There were two areas of iron staining on the girth and near the rim. Cat. no. 3, RF10544, Figure 3.33. Placed grave goods.

Grave 64

A spread of fragmented pottery was recovered from the area outside of the head end of the coffin in Grave **64**. This included the remains of two largely complete ceramic vessels. One of these vessels was a small burnished grey ware (GRB2) small jar or beaker with an everted rim. This vessel was incomplete, missing part of

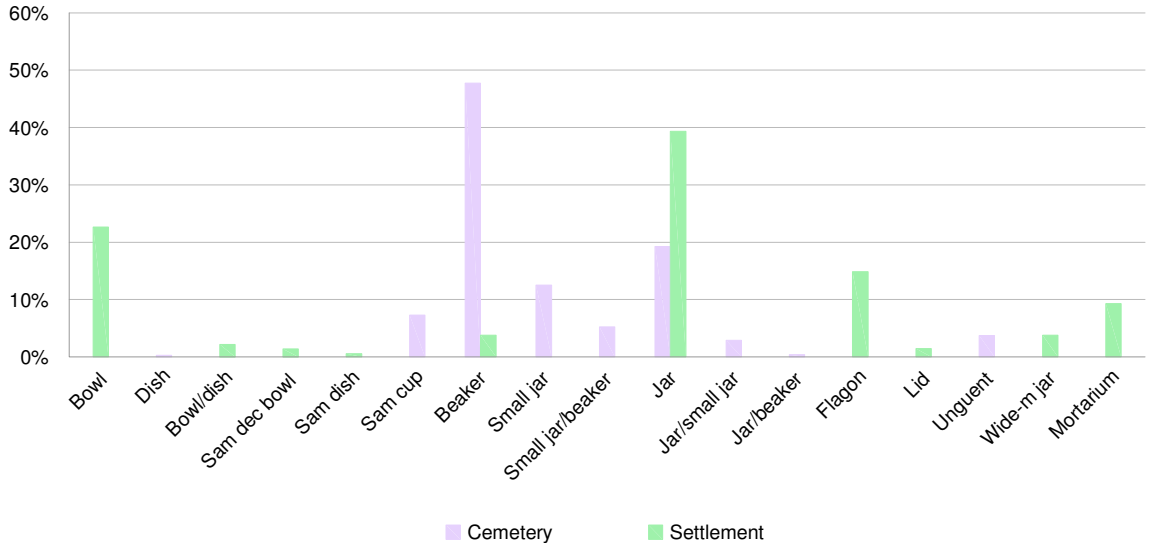


Figure 7.1: ceramic vessel types from funerary and settlement features included in this analysis for Bainesse Cemetery (relative % using EVES).

its base. This form belongs with the group of small jars/beakers with everted rims (Cat. nos 11–13 and 30). These other vessels have more diagnostic attributes, such as the form and decoration, and are dated to the mid-2nd to mid-3rd century AD. This vessel is also likely to date to the same period. A further sherd from this vessel was recovered from sampling. Cat. no. 4, RF11165, Figure 3.42. Smashed grave good.

The second vessel was an incomplete late black-burnished ware (BB1) jar with everted rim, shoulder groove and obtuse lattice. The form was compared with Gillam's (1976) nos 8–9, and the shoulder groove provides a date after of c.AD240–270 (Holbrook and Bidwell 1991, 95–6). The jar was burnt on one side, with sooting outside the shoulder and inside the rim. The vessel had been broken in antiquity. A further nine base and body sherds from this jar were recovered from sampling. Cat. no. 5, RF15228, Figure 3.42. Smashed grave good.

Grave 81

The incomplete remains of a grey ware (GRB11) everted-rim jar with obtuse lattice burnish, dated to c.AD200/225 to the mid-3rd century, were recovered from the head end of Grave **81**, outside of the coffin. The base was completely absent and much of the body and rim were also missing. As in the case of one of the Grave **64** vessels (see above), the remains of this jar displayed old breaks, suggesting that these had occurred in antiquity. The obtuse lattice gives a date after c.AD200/225 while the rim form pre-dates the late 3rd-century jars with pronounced splayed rims. Cat. no. 6, RF726, Figure 3.51. Redeposited grave good.

Grave 149

The lower fill of Grave **149** contained the partial remains of a Nene Valley (NV1) indented scale beaker with everted rim. This form was made in the Nene Valley, Cambridgeshire, and is dated there to the late 2nd to early 3rd century. Bidwell has argued that Nene Valley colour-coated wares did not reach the North until the 3rd century and this ware is uncommon at both Lincoln and York before the 3rd century (Monaghan 1997, 893; Darling and Precious 2014, 36). The exceptions were cornice-rim beakers at both centres. Monaghan (1997, 894, type KI) notes that beakers of the same form as this example occur from the early 3rd century at York.

The incompleteness of this vessel may suggest that it originated from another burial and was redeposited in Grave **149** when it was backfilled, rather than being directly associated with this particular burial. Cat. no. 7, RF15229, Figure 3.91. Redeposited grave good.

Grave 161 (GM)

A Dr.33 form samian cup from Lezoux in Central Gaul had been placed in Grave **161**. It was located towards the north-west end of the grave and, as no human bone survived, its relationship to the burial remained unknown. The cup displayed a complete but 'illiterate' stamp dated to AD120–200. The vessel survived intact. Cat. no. 8, RF11217, Figure 3.99. Placed grave good.

Grave 163

The incomplete remains of a Trier black-slip, necked, globular beaker were found within Grave **163**. Its beaded rim, slit indentations and spaced lines of rouletting compares with Symonds' (1992) type 1 group 33, and it can be dated from the end of the 2nd or beginning of the 3rd century (c.AD275; Brulet *et al*. 2010, 253–55). It was thought to represent a disturbed grave good, possibly originating from Graves **162**, **164** or **167**, all of which were truncated by Grave **163**. The base and rim sherds were all present, although the sherds do not make up a complete vessel. Cat. no. 9, RF15230, Figure 3.102. Disturbed grave good.

Grave 172

Grave **172** contained the incomplete remains of a grey ware (GRA6) everted-rim beaker perhaps dating to the late 1st to 2nd century AD. These simple vessels are difficult to date. The vessel is considered to represent a grave good, which had been disturbed due to truncation by a post-medieval field boundary. It is possible that this vessel had been redeposited in Grave **172** from an unknown grave. Cat. no. 10, RF15231, Figure 3.107. Possibly redeposited grave good.

Grave 177

Two small grey ware (GRA6) jar/beakers had been placed with the individual inside the coffin in Grave **177**. One was a small jar/beaker with sharply everted rim. The vessel had an uneven base and rim but had survived intact. Cat. no. 11, RF11292, Figure 3.112. Placed grave good.

The second was similar, but had damage to the rim, which was incomplete. This vessel was a small, near-complete jar/beaker with short everted rim. The pot was slightly distorted and displayed two small spalled areas on the girth. Cat. no. 12, RF11293, Figure 3.112. Placed grave good.

These two small jars/beakers are very similar and belong to a group of small jars and handled beakers being used at *Cataractonium*. The form compares with the larger jars made in the south-east of England as part of the BB2 industry (arriving in the North during the mid-2nd to mid-3rd century; Monaghan 1997, type 3J3). The decoration on a similarly form from Grave **181** confirms this date range. At Trentholme Drive cemetery, York, a vessel of similar type was dated to late 2nd to early 3rd century

(Gillam 1968, no. 143).

Grave 181

Grave **181** also contained two ceramic grave goods that were placed within the coffin. One was a complete grey ware (GRA6) small jar/beaker with short everted rim and vertical burnished line decoration, similar to those recovered from Grave **177** (see above; cf. Monaghan 1987, type 3J3), and is dated to the mid- or late 2nd century to the mid-3rd century. At Trentholme Drive cemetery, York, Gillam dated a similar vessel to the 3rd century (1968 fig. 29 nos 5-7 and fig. 30 no. 16). Cat. no. 13, RF11218, Figure 3.117. Placed grave good.

The second was a near-complete grey ware (GRA6) unguent pot, consistent with Gillam's (1970) nos 36–37, which have been dated to AD90–160 and 120–170 respectively. This example is rilled, which is comparable to Gillam's no. 37, suggesting a date in the 2nd century. Cat. no. 14, RF11219, Figure 3.117. Placed grave good.

Grave 191

Eleven sherds from a Nene Valley (NV1) indented beaker with curved rim were recovered during the excavation of Grave **191**. A further eleven sherds were recovered from the sample. The 22 sherds did not represent a complete vessel. The breaks are fresh. The form compares with Gillam's (1970) no. 92, which is dated to c.AD180–250. The beaker appears to have been placed inside the coffin. Cat. no. 15, RF755, Figure 3.126. Placed grave good.

Grave 199

A near-complete grey ware (GRB11) everted-rim jar, copying black-burnished ware (BB2) jars of mid-2nd- to mid-3rd-century date (see Gillam 1970, no. 144), was recovered from Grave **199** and is considered to represent a placed grave good. Although the plain burnished zones are visible, a narrow, reserved zone has no trace of the lattice that would normally occupy this space. The narrow zone suggests it was occupied by obtuse lattice, as is the case with Cat. no. 20 in Grave **205**. If correct, such decoration would give a date after c.AD200/225. The pot appears to have broken in the grave; it was found on its side in pieces, and a small amount of the rim was missing. Cat no. 16, RF11834, Figure 3.136. Placed grave good, broken in situ.

Grave 201

Three ceramic grave goods were recovered from Grave **201**, despite disturbance by a later ring ditch (**12500**). The first of these is a near-complete oxidised ware (OAA3) waisted beaker with near funnel neck rim, which was partly missing. The vessel had been placed on the west side of the head, in the equivalent position to Cat. no. 18 (RF679; see below) on the east side. The beaker was similar in form to Nene Valley waisted beakers, which date to c.AD200–250 (Perrin 1999, figure 61, nos 169–71). Since overslip decoration is not found on these beakers, Perrin has suggested that they might have declined in use during the second half of the 3rd century. A similar vessel from Trentholme Drive cemetery, York, has an everted rim and dates rather earlier, in the mid-2nd century (Gillam 1968, fig. 29 no. 15), but an example with an upright rim like our example is dated to the mid- to late 3rd century (Gillam 1968, 80, no. 184, fig. 31 no. 9). Cat no. 17, RF666, Figure 3.138. Placed grave good.

An incomplete plain-rim Nene Valley (NV1) bag beaker, with groove below the rim, was also recovered. This vessel is consistent with Howe *et al.*'s (1980) no. 44, dated to the late 2nd century AD, and to Gillam's (1970) nos 78 or 81, dated to c.AD190–260. Perrin notes this type of beaker continues as late as the second half of the 3rd century (1999, 90). As the east side of the grave had been truncated by ring ditch **12500**, some of this vessel had been lost. The location of the remaining fragments indicated that it had been placed on the east side of the head in the equivalent position to Cat. no. 17 (RF666; see above) on the west side. Cat. no. 18, RF679, Figure 3.138. Placed grave good (disturbed).

A black-burnished ware (BB1) everted-rim jar with obtuse lattice burnish, as per Gillam's (1976) no. 8, which is dated to the mid-3rd century, had also been placed in Grave **201**. As it had been placed in the east side of the grave, this vessel had also suffered disturbance from ring ditch **12500**. As a result, the vessel was fragmented, with further sherds recovered from nearby ditch fill **12425**; these make up 100% of the rim and base. Cat. no. 19, RF15232, Figure 3.138. Placed grave good (disturbed).

Grave 205

A grey ware (GRB11) everted-rim jar with obtuse lattice burnish had been placed in the coffin next to the individual's head. The vessel was consistent with the vessel form of Gillam's (1970) no. 144, dated to AD160–280 and re-dated to c.AD200–280 in the North at *Vindolanda* (Bidwell 1985, 189 nos 47–48, c.AD200–280). The decoration indicates a date after c.AD220/225 (Bidwell 1985, 175). Some of the sherds from this vessel had been redeposited in Grave **206**, which cut Grave **205**. Cat. no. 20, RF11188, Figure 3.144. Placed grave good (disturbed).

Grave 215

An incomplete and fragmentary Nene Valley (NV2) plain-rim bag beaker was recovered from Grave **215**. It displays lattice decoration in paler clay that was applied *en barbotine* and fired to a pale orange colour. The vessel profile was consistent with Gillam's (1970) no. 45, which is dated to c.AD220–260. This vessel is incomplete with ancient breaks. The sherds were not found together,

suggesting that it had not broken in situ and had instead been broken in antiquity prior to its deposition within the grave. Two further sherds from this beaker were recovered from the sample. Cat. no. 21, RF11896, Figure 3.152. Redeposited grave good?

Grave 219

Grave **219** included two placed ceramic grave goods, both black-slip beakers imported from, Germany. The main source of this ware was Trier, although secondary sources, such as at Kasden (Cochen-Zell), Germany, are known. The first was a complete black-slip globular necked beaker with lines of rouletting. It is consistent with Symonds' (1992) group 32 no. 474 squat and is dated to AD200–275 (Brulet *et al*. 2010, 253–55). Cat. no. 22, RF11781, Figure 3.156. Placed grave good.

The other was a near-complete black-slip indented beaker with oval indentations, rows of rouletted decoration and a medium neck. The rim had a small chip, which had become detached in antiquity. This vessel was consistent with Symonds' (1992) group 35 nos 522 and 528 and is dated to AD200–275 (Brulet *et al*. 2010, 253–55). Cat. no. 23, RF11782, Figure 3.156. Placed grave good.

Grave 229

The remains of three fragmented and incomplete ceramic vessels were recovered from Grave **229**. Most of the sherds were found at a position in the grave that suggested already fragmented and incomplete vessels had been thrown onto or around a closed coffin.

Eighteen sherds represented the near-complete remains of an oxidised ware (OBA3CC) plain-rim bag beaker with distorted rim and uneven base. The vessel was similar in profile to Gillam's (1970) no. 83, which dates to c.AD260–320. Gillam (2005, table 1 no. 8) considered the narrower, longer beakers to be later. Cat. no. 24, RF11396, Figure 3.161. Smashed grave good.

Forty-nine sherds were from a near-complete Nene Valley (NV1) plain-rim rouletted bag beaker. The profile of the vessel was similar to Gillam's (1970) no. 83, Howe *et al*.'s (1980) no. 45 and Gillam's (2005) no. 8. It therefore can be dated to AD260–300. Cat. no. 25, RF11625, Figure 3.161. Smashed grave good.

The third vessel was an incomplete Nene Valley (NV2) plain bag beaker with late everted rim. The profile was similar to Gillam's (2005) no. 14, dated to AD200–250. Cat. no. 26, RF11626, Figure 3.161. Smashed grave good.

A small number of additional sherds were recovered from the samples, these represented tiny fragments of the three vessels already described above, and a single oxidised ware (OAA4) body sherd that is considered to have been incorporated into the grave during backfilling.

Grave 239

Grave **239** contained two placed ceramic grave goods. A near-complete teardrop-shaped Nene Valley (NV2) beaker with white painted scrolls, long neck and bung foot had been placed on its side in the grave. This is an uncommon body form, but both it and the painted decoration suggest a date early in the painted scroll beaker series, perhaps mid-3rd century AD. Cat. no. 27, RF11684, Figure 3.170. Placed grave good.

A second Nene Valley (NV2) beaker had also been placed in the grave on its side that had been crushed at the time of burial, or had collapsed post-deposition. This beaker was grooved with a plain rim and decorated with three rows of rouletting. The profile compares with Howe *et al*.'s (1980) no. 45, dated to the 3rd century, and Gillam's (2005, table 1) no. 8, dated to c.AD260–300. Cat. no. 28, RF11720, Figure 3.170. Placed grave good.

Grave 240

Grave **240** contained two complete and intact ceramic vessels. Their exact position in the grave was difficult to ascertain due to skeletal and coffin preservation, but it is thought that they had been placed inside the coffin, with one at either side of the head.

One was a complete Nene Valley (NV1) plain-rim grooved beaker, with a profile that was compared with Gillam's (1970) no. 81. It is dated to c.AD220–260. There is a spalled area just below the groove, c.20mm by 20mm, and the girth is abraded over an area of c.50mm by 15mm. Cat. no. 29, RF11785, Figure 3.172. Placed grave good.

The second was a complete grey ware (GRA6) small jar/beaker with vertical burnished lines. There was a small chip on one side of the rim. The vessel is consistent with Monaghan's (1987) type 3J3, dated to AD150–240/80. Cat. no. 30, RF11786, Figure 3.172. Placed grave good.

Grave 256

This feature was poorly preserved; however, the 22 base and body sherds from a grey ware (GRA6) jar are perhaps the remains of a placed grave pot. The fabric of this vessel would indicate a date in the range late 1st to perhaps mid-3rd century. Cat. no. 31, RF15233, Figure 3.177. Placed grave good (disturbed).

Cremation burials

Grave 257

Grave **257** contained the remains of two vessels that had been burnt, presumably on the pyre during cremation. A grey ware (GRB27) indented beaker was represented by five burnt and partially oxidised sherds. Jars and beakers of this form were made at Malton in the 3rd century AD

(see Corder 1950, type 9a; Croom and Bidwell 2012, type 9; dated to the early 3rd century). Cat. no. 32, RF15234, Figure 3.179. Pyre good.

A small black-burnished ware (BB1) jar/beaker was represented by three burnt and mostly oxidised sherds. The lattice decoration was too eroded to identify. The vessel dates to 2nd to 3rd century AD. Cat. no. 33, RF15235, Figure 3.179. Pyre good.

Grave 260 (CC)

The almost-complete remains of a cremation urn were recovered from Grave **260**. This was a hand-built funnel-rim jar type vessel with a blunt-ended, tall, everted rim, similar to Knapton jars. It was carefully made, with vertical finger grooves inside the lower body, as is common on Huntcliff-type jars. The fabric is a H2 quartz gritty hand-built grey ware. It was also scorched on one side. It is comparable to Bell and Evans' (2002) type 11.2, which is dated to the 3rd century; see also Evans' (2006) G27.2B and 27.4, both of which date to the 2nd to mid-3rd century but occur earlier in the Late Iron Age to early Roman period (Evans 2006, G251.1; in flint tempered ware). These jars are difficult to date, but the fabric and form in a Roman context suggest a date in the 2nd to mid-3rd century. At York, Monaghan (1987, 907) dates the appearance of Knapton-type jars (this form in calcite-gritted ware) to the end of the 2nd century and states that it continued through the mid-3rd-century levels. As this cremation burial cut Grave **202**, it must date to the 3rd century at the earliest. Longer rims are typical of this type, but variation around a basic shape is a consistent feature of hand-built pottery in north-east Yorkshire and, while it is possible that the pot was made specifically for funerary use, its form is one that could be found in a domestic context. It is unclear whether the use of a hand-built as opposed to a wheel-thrown vessel was of any significance in the burial rite. Seven additional H2 fabric sherds, probably from the same vessel, were recovered from the samples taken from the fill of the cremation pot (**12350**) and the fill of the cremation pit (**12348**). Cat. no. 34, RF15236, Figure 3.181. Cremation urn.

Grave 261

The cremation deposit in Grave **261** was contained inside an oxidised ware (OAB1) jar, which survived as base and body sherds only. No diagnostic sherds were recovered from this vessel, so it can only be broadly dated from the 2nd century AD or later. Cat. no. 35, RF15237, Figure 3.183. Cremation urn.

A partial second jar was recovered from the fill (**12356**) of the cremation pot described above and was represented by eight sherds of black-burnished ware (BB1) fabric. This vessel had an everted rim and internal rilling/wipe marks, which is typical of the late BB1 jars of the late 2nd or 3rd and 4th centuries AD. The rim form is late 2nd century AD at the earliest. This vessel was unburnt. The recovery of sherds from inside the primary cremation pot raises question of how and why they were collected with the cremated bone and if their inclusion in the burial were intentional. Cat. no. 36, RF15238, Figure 3.183. Grave good or an offering made during the burial rite.

Grave 263

Grave **263** was cut into ring ditch **12500**. It contained a diverse assemblage of pottery, none of which can be identified as placed grave goods with any certainty. It is possible that the material represents vessels deposited in other graves that had later been disturbed and redeposited in this grave's backfill and/or possibly incomplete pot offerings related to the burial of the individual in Grave **263**, a practice which is evident in other graves within Bainesse Cemetery.

The two most complete vessels were black-burnished ware (BB1) jars. One was represented by 33 unburnt BB1 sherds from a jar with a splayed rim. This compared with Gillam's (1970) no. 10 and can be dated to mid- to late 3rd century AD. The small sherd size suggests that this vessel was redeposited in the fill (**12343**) of Grave **263**. The other BB1 jar (from context **12357**) was represented by 75 sherds. This vessel was a cavetto-rim jar with shoulder groove and obtuse lattice burnish of Gillam's (1976) type 8, dating to c.AD240–270. The jar was burnt on both the inside and outside of the body. Additional sherds from these vessels were recovered from samples. Not illustrated. Perhaps a redeposited urn and a pyre good.

One sherd from an oxidised ware (OBB) jar sherd was burnt and may also represent a redeposited pyre good.

Grave 267

The remains of two vessels were recovered from Grave **267**, both of which were burnt, suggesting that they had been pyre goods. One vessel was an indented scale Nene Valley (NV1) beaker with curving everted rim, which was consistent with Howe *et al.*'s (1980) no. 40 and Perrin's (1999) no. 94. This form dates to the late 2nd to early 3rd century AD. Few, if any, were produced after the mid-3rd century. The beaker was incomplete and all the recovered sherds showed evidence for burning. Cat. no. 37, RF15239, Figure 3.187. Pyre good.

The second vessel was a grey ware (GRA6) everted-rim jar with acute lattice burnish, copying black-burnished ware (BB2) jar forms. It is dated to late 2nd to mid-3rd century (Gillam 1970 no. 135; dated to AD170–250). Again, the vessel was incomplete and was scorched and oxidised over much of its surface. Cat. no. 38, RF15240, Figure 3.187. Pyre good.

Grave 269
The fragmented and incomplete remains of an urn containing cremated human remains were found in Grave **269**. This was a grey ware (GRB2W) everted-rim jar/beaker with rouletted decoration outside the body. Part of the rim was absent, and all of the breaks were recent. This vessel had a dent in the lower body, which was made before or during firing. The profile, with its low girth, is most unusual; these types of jar/beakers are usually somewhat globular with higher shoulders, and it appears that this vessel may have sagged before or during firing. A late 1st- to 2nd-century date is likely. Cat. no. 39, RF15246, Figure 3.189. Cremation urn.

Grave 271
The truncated remains of a grey ware (GRA6) jar were recovered from Grave **271**. This vessel contained cremated human remains and charcoal, as well as pot sherds from another vessel (see below). Cat. no. 40, RF11377, Figure 3.192. Cremation urn.

Similar to Grave **261**, the remains of a second ceramic vessel were recovered from inside the primary cremation urn. The remains comprised eight grey ware (GRA13) sherds from the base and lower body of a smaller jar dating to the 2nd or 3rd century AD. The sherds present are unburnt. Cat. no. 41, RF15241, Figure 3.192. Pyre good or an offering during the burial rite.

Grave 273
A black-burnished ware (BB1) jar had been used as the cremation urn in Grave **273**. The vessel survived as body and base sherds only, with one sherd being scorched. The jar had the wiping and rilling inside that is typical of 3rd-century BB1 jars. Cat. no. 42, RF15242, Figure 3.196. Cremation urn.

Cemetery related pottery from other features

Penannular gully 12353/12332
Penannular gully **12353/12332** enclosed cremation Grave **273** (Fig. 3.5). Its various fills contained pottery that appears to represent both redeposited grave and pyre goods and an element of general background material.

In total, 49 sherds of a Nene Valley (NV1) plain-rimmed bag beaker decorated with scrolls *en barbotine* were recovered from the gully's fills. The beaker had a profile consistent with Gillam's (1970) no. 77, and dates to c.AD190–230. Twelve partially oxidised grey ware (GRB1) sherds (39g) were also recovered. These represent the base and body of a jar with vertical burnish lines and are likely to relate to cemetery activity.

Eight very abraded, partially oxidised grey ware (GRA3) sherds (96g) with vertical burnished lines were also recovered. These could be from a lugged type jar or a BB2 type jar. In either case, they date to the 3rd century or later. A slight dent in the body of this vessel was also noted.

Other small sherds and scraps included: grey and black-burnished wares; nine GRA6 scraps (36g); one GRC scrap; one GRB30 sherd; and a BB1 scrap.

Ring ditch 12500
The lower fill (**12425**) of this ring ditch contained an oxidised ware (OBA1) rouletted beaker body sherd, as well as two rim and body sherds from a black-burnished ware (BB1) everted-rim jar with obtuse lattice of mid-3rd century type (Gillam 1976, no. 8). This vessel was sooted inside the rim and scorched outside the lower body and slightly on the base. This vessel is the same as that found in Grave **201**. Cat. no. 19, RF15232.

In addition, a sherd from a samian Dr.18/31 dish from Les Martres-de-Veyre, dating to AD100–120, was recovered from the tertiary fill (**12338**) and two black-burnished ware (BB1) sherds from a grooved-rim dish with intersecting arcading burnish of early 3rd century type (Gillam 1976, no. 73) were recovered from fill **12345**, along with a further black-burnished ware (BB1) scrap.

Pottery from settlement features at Bainesse

A small number of non-grave features within the cemetery yielded pottery that was considered useful in understanding the dating and development of the cemetery. The pottery from these features is presented and discussed below.

Enclosure ditch
The pottery from the enclosure ditch located immediately to the west of Bainesse Cemetery, in Field 163C, suggests an early 2nd-century date for their use and the occupation of the enclosed timber building (structure group **12920**). The timber building contained nothing that has to be later than the early 2nd century. The earliest cremation pot, Grave **269**, could be contemporary with this phase of settlement, but the *as* of Antoninus Pius associated with this grave is later both in production date (AD138–161) and use (at least 3rd century), demonstrating a later date for this burial.

BURIALS AT CATARACTONIUM *(FIELDS 172–179)*

In total, 35 graves dating between the earlier 2nd century and the 4th century AD were excavated in and around the *Cataractonium* area. None of the inhumations contained placed pots, but many contained chronologically diagnostic pottery within their backfills. One cremation burial (Grave **20400** at Brompton West; Field 177/178) was interred in a black-burnished ware (BB1) jar with

accompanying grey ware lid dating to the 2nd century. Five of the six cremation burials at Brough Park (Field 172, Graves **6729**, **6783**, **6785**, and **6782** and **6790**) contained fragments of ceramic pyre goods, which in the first four of these the vessels dated to the later 2nd century, while in Grave **6790** the earliest date suggested by the pottery evidence is in or after the second quarter of the 3rd century. At Fort Bridge (Field 176FB), only Grave **18207** included a ceramic grave good, in this case a cremation urn.

Cataractonium chronology

At Brough Park (Field 172), the pyre goods in cremation Graves **6782**, **6783** and **6785** date to the second half of the 2nd century AD. Pottery sherds from fill **6730** in cremation Grave **6729** are of similar date, although a scrap from a Nene Valley painted scroll beaker from **6730** that was recovered from sampling provides a later date, perhaps in the mid- or late 3rd to mid-4th century. The jar from cremation Grave **6790** dates from c.AD220/225 at the earliest but could be as late as the 4th century. At Fort Bridge (Field 176FB) the decorative scheme on the BB1 urn from cremation Grave **18207** dates to c.AD220/225–240. At Brompton West (Field 177/178) sherds from a black-burnished ware (BB1) jar with a grey ware (GRB6) lid are likely to date to the 2nd century, although no traces of the lattice decoration survived and only the basal and lower body fragments of the jar were recovered.

Cremation urns and pyre goods

At Brough Park, cremation Graves **6783** and **6785** were found in association with sherds from black-burnished ware (BB1) jars. In both cases, these were burnt, incomplete and fragmented. The association of cremated remains with these jar sherds is the basis for their interpretation as cremation urns, despite their fragmentary and incomplete condition, which is suggested to be predominantly the result of plough damage. They could, on account of their condition, be pyre goods collected with the cremated bone. In cremation Grave **6729**, seven burnt sherds from a black-burnished ware (BB1) jar are likely to have come from a pyre, although its relationship to the burial is less certain. In the *bustum* (Grave **6790**), nine sherds from a black-burnished ware (BB1) jar were present. Again, these were burnt all over and likely to be pyre goods, though their presence in the upper fills suggest that they were perhaps redeposited from another cremation pyre elsewhere, rather than being an intentional inclusion in the *bustum* rite. In Grave **6782**, sherds representing the complete base and part of the body and rim of a small black-burnished ware (BB1) jar were found throughout the fill. This vessel was only scorched in some areas on the outside of the body and may have been a vessel used in the cremation ritual, perhaps a libation beaker. It had not been in the pyre long enough and/or completely enough to be burnt all over. One body sherd from this vessel was perforated, perhaps as part of a repair.

The evidence from Brough Park indicates a slightly different use of ceramics during the burial process, with jars being placed on the pyre and burnt before being used as urns in two cremation burials. The Bainesse Cemetery urns were not severely burnt in comparison to those from Brough Park, suggesting a different treatment of the ceramic vessels during the pyre rituals.

At Fort Bridge, the lower body and complete base of a BB1 jar formed the cremation urn in Grave **18207**. Compared to the Brough Park urns, this vessel was not noticeably burnt or fragmented, although the upper body and rim was missing. At Brompton West, the lower body and basal sherds from a black-burnished ware (BB1) jar contained the cremation deposit within Grave **20400** and this vessel was scorched around the lower body, although not as severely as the Brough Park cremation urns. No pyre goods comparable to the small beakers and jars at Bainesse were present in these cremation burials.

Cataractonium (Fields 172–179) pottery by grave

Brompton West (Field 177/178)

Grave 20400

Cremation Grave **20400** contained seven basal and body sherds from a black-burnished ware (BB1) jar. The outside lower body was scorched. There are no traces of lattice burnish on the sherds present, so this vessel can only be dated to c.AD120+. The angle and thickness of the wall favours a date in the 2nd century. Cat. no. 43, RF7548, Figure 4.10. Cremation urn.

An additional sherd (10.3g.) was recovered alongside the jars remains. This was a grey ware (GRB6) sherd from a lid with a blunt-ended rim, dating to c.AD70–200. Its association with the sherds above, together with the truncated nature of the grave, suggests that this was once the lid for the cremation urn. Cat. no. 44, RF20405, Figure 4.10. Cremation urn lid.

Brough Park (Field 172)

Grave 6729

The incomplete remains of a black-burnished ware (BB1) jar were recovered from Grave **6729**. Their burnt appearance suggests that this vessel represented a pyre good. The jar had a rim with an everted neck and everted rim tip, similar to Gillam's (1976) nos 3-4, which dates to the mid- to late 2nd century AD. The rim is burnt both inside and out. Cat. no. 45, RF15244, Figure 4.15. Pyre goods.

One very tiny colour-coated ware scrap (0.4g) and one flake of East Gaulish samian dated to AD150–250 were recovered from the backfill of the grave. The colour-coated ware fragment probably represents Nene Valley colour-coated ware and is likely from a beaker, the side of which appeared to have been burnt. The presence of this Nene Valley beaker scrap with painted scroll decoration could suggest a late date for the infilling, which must have taken place after the mid-3rd century, perhaps in the late 3rd to mid-4th century (see Perrin 1999, 96). However, given the size of this fragment, it may be intrusive.

Grave 6783

An extremely fragmentary black-burnished ware (BB1) jar was recovered from Grave **6783**. The remains were burnt, and the vessel was incomplete and fragmented when deposited, suggesting that the jar had been a pyre good. The rim, which has a wavy line neck burnish, indicates a date in the mid-2nd century or perhaps the late 2nd century (Gillam 1976, nos 3–4). The sherds were so severely burnt that the surfaces were eroded and had deteriorated to such an extent that the lattice was not visible any more. Further sherds consistent with this vessel were recovered from samples. Cat. no. 46, RF11404, Figure 4.18. Pyre goods/Cremation urn.

Grave 6785

The remains of an extremely burnt, fragmented and eroded black-burnished ware (BB1) medium-mouthed jar with everted rim was recovered from Grave **6785**. As a result of being placed on the cremation pyre, no burnished lattice survived. While the rim profile is incomplete, it fits best with the mid- to late 2nd century BB1 jar forms (Gillam 1976, nos 3–4), although a later date cannot be completely ruled out. It appears to have been fragmented and incomplete when deposited. Further sherds consistent with this vessel were recovered from samples. Cat. no. 47, RF11409, Figure 4.19. Pyre goods/Cremation urn.

Grave 6782

An incomplete small black-burnished ware (BB1) jar, dating to the mid- to late 2nd century AD, had been placed in Grave **6782**. As with the other BB1 vessels recovered from cremation burials at Brough Park, this jar survived in an extremely fragmented condition. The shoulders, base and rim are unburnt but some of the body sherds are scorched, suggesting that this had been a pyre good. One body sherd retains part of a perforation, c.4mm in diameter. The vessel could not have been complete when buried. Further sherds consistent with this vessel were recovered from samples. Cat. no. 48, RF11405, Figure 4.21. Pyre goods.

Grave 6790 (*bustum* burial)

Nine burnt black-burnished ware (BB1) jar sherds were recovered from Grave **6790**. These displayed traces of what appeared to be faint obtuse lattice burnish, providing a date of c.AD220/225 or later. The sherd had internal grooving, which is also a late feature. The burnt condition of these sherds (some also being oxidised) suggests that they were used as pyre goods during the cremation and burial rite. Cat. no. 49, RF15245. Not illustrated due to fragmentation. Pyre good.

Fort Bridge (Field 176FB)

Grave 18207

The cremation deposit in Grave **18207** was contained in a black-burnished ware (BB1) jar with obtuse lattice burnish and no shoulder groove. It survived as only the base and lower body. The vessel dated to c.AD220/225–240. Cat. no. 50, RF14594, Figure 4.28. Cremation urn.

BURIALS AT SCURRAGH HOUSE (FIELDS 209–11)

Four cremation burials and five inhumations at Scurragh House contained pottery within their fills. Three vessels could tentatively be associated with burial rites, but none appear to represent grave or pyre goods, or cremation vessels in situ.

Scurragh House chronology

Inhumation Graves **7888**, **11803**, and **11808**, and cremation Grave **7859** all contained sherds from Nene Valley beakers in their fills. As Nene Valley ware is uncommon before the 3rd century, these are likely to date to the 3rd century at the earliest. A date in or after the late 3rd to mid-4th century is provided for Grave **10712** by the types of pottery found in its fills (Grave **7859** is dated cal AD131–333). The two fine ware beakers from ditch group **11831** may be derived from burial activity in this area, perhaps coming from disturbed burials or, given the absence of any ceramic grave goods from the graves, are perhaps more likely to be from ritual activities during and subsequent to the burial process. These dated to the early to mid-3rd century and the late 3rd to mid-4th century.

In cremation Grave **7671**, 13 sherds from a Crambeck reduced ware (CRA RE) pentice moulded beaker of late 3rd- to 4th-century date were recovered. The surfaces of this vessel were very eroded. It could have been redeposited from earlier activities, grave or pyre goods. However, it is equally possible that its eroded condition is the result of prolonged exposure to the elements if it had been left on the ground surface after memorial meals and other similar ritual graveside rites. The basal and body sherds from a grey ware (GRB13) jar in cremation Grave **7683** are of uncertain function and cannot be closely dated. Cremation Grave **7830** contained sherds from a grey ware (GRB1) small everted-rim jar of 2nd-century

form. It is probably Hadrianic or Antonine in date but not closely datable. A scrap of Nene Valley colour-coated ware from cremation Grave **7859** may indicate a later date for this grave, falling in the late 2nd or, more likely, the 3rd century.

It is not certain whether the pottery sherds from either the cremation burials or the inhumations at Scurragh House were associated with the burials. In two cases—cremation Graves **7671** and **7830**—they may relate to burial or memorial activity. However, in these burials, the placement of the vessels within the graves and their association to the human remains are uncertain. The Crambeck reduced ware (CRA RE) beaker sherds in cremation Grave **7671** and the sherds of a small grey ware (GRB1) jar from Grave **7830** could well have been accompanying vessels or debris from graveside rituals but they are unburnt, so are unlikely to be pyre goods. It is entirely possible that they could be redeposited ceramics. The radiocarbon date (cal AD224–391) from Grave **7830** is much later than the pot in its fill making this more likely to be residual in character. Sherds from a dark grey ware (LOOL2) small jar was dispersed throughout inhumation Grave **10825** (context **10826**). This vessel copied late black-burnished ware (BB1) small jars with obtuse lattice and shoulder grooves and is dated to the mid- to late 3rd century. The distribution of the sherds, the incomplete nature of the vessel and the lack of adjoining sherds from different parts of the grave suggested this was not a 'smashed' pot but was rather a redeposited vessel, disturbed by the act of digging the grave. Its form, a small jar, accords with the preference noted elsewhere on the A1 scheme for using small jars and beakers as part of the funerary and memorial rites, and this vessel may have derived from earlier graveside rites in the area.

Preliminary examination of the types found in both the funerary and non-funerary features at Scurragh House suggested an unusually high proportion of beakers and small jars, a characteristic typical of cemeteries and ritual sites in the Midlands and the North and something that may perhaps relate to graveside rituals. Examples of such include: York (Monaghan1997, 851–2); Brougham (Evans 2004, 353–5), where this is also seen in glass (Cool 2004, 366–69, 458); Wall (Leary 2008, 160–4); and Derby (Birss 1985, 267). This has also been previously noted by Evans (1993, 112; 2002, 247 and 472) at Catterick Racecourse where he suggests a peak in beakers is associated with ritual activity. Two Nene Valley beakers from ditch group **11831** are likely to come from burial or graveside rites. The presence of two portable altars on the site may be another aspect of the ritual and burial activity. The ceramic evidence from this site suggests that, although small jars and beakers had a role to play in the funerary or memorial rites being carried out, they did not form part of the grave or pyre goods accompanying the dead on the pyre or to the grave, and their role could have been wholly restricted to graveside and/or memorial aspects of the funerary process.

Scurragh House cemetery pottery by grave

Inhumations

Grave 7671

Thirteen Crambeck reduced ware (CRA RE) sherds from a pentice moulded beaker were found in the secondary fill (**7672**) of this grave. It belongs to Corder's (1937) class 12 and dates to the late 3rd to 4th century AD. The sherds were extremely eroded but perhaps represent redeposited grave goods or a vessel used in graveside rituals. The dating fits that provided by the radiocarbon dates (cal AD239–390 and cal AD179–390). Cat. no. 51, RF15247, Figure 5.30.

Grave 7683

The secondary fill (**7684**) within Grave **7683** produced six body and basal sherds from a grey ware (GRB13) jar with oblique burnished line, dated to the 2nd or 3rd century AD. The status of this vessel is uncertain. The suggested date range fits the radiocarbon dating (cal AD138–377 and cal AD89–323). Cat. no. 52, RF15248, Figure 5.33.

Grave 7830

Fill **7831** produced six grey ware (GRB1) sherds from a small jar with an everted rim, which copies black-burnished ware (BB1) types. This is not a closely datable form but is suggested to date to the 2nd century. This may be redeposited grave goods or a vessel used in graveside rituals. The radiocarbon dating (cal AD224–391) suggests this vessel is not contemporary with the burial phase. Cat. no. 53, RF15249, Figure 5.22.

Other vessels of interest

Sherds from an incomplete LOOL2 jar (34 sherds with a further 8 sherds from samples) came from Grave **10825** from both the coffin stain (**10826**) and primary fill (**10871**). These represented the dispersed fragments from a small jar with obtuse lattice and grooved shoulder (RF9005; see Fig. 5.16), dated to the late 3rd century (Gilliam 1976, no. 18). The grooved shoulder and obtuse lattice suggests a date after c.AD240, following the dating of black-burnished ware (BB1) jars, while the everted but not markedly splayed rim points to a date within the 3rd century at the latest. The jar was incomplete and, although some joining sherds were found close together, joins were not generally found between sherds plotted further apart. The exception to this was two rim sherds from **10826**, which joined to a rim sherd from **10871**; however, the breaks were old and somewhat worn.

Other possible adjoining sherds were also worn. Given that the breaks were ancient, rather than fresh, and that the rim and base were both incomplete, it is suggested that this pot had not been broken in the grave. It may have been broken elsewhere and then deposited. But, if this was the case, then it must have become abraded prior to its deposition. Therefore, it is more likely that the vessel derives from earlier activity in the area and was disturbed during the burial, with some being broken when the coffin was lowered into the grave and others perhaps dug out and redeposited as the grave was filled. Thus, this vessel could be derived from an earlier grave or from earlier funerary rituals or memorial rites in the vicinity.

Several sherds of pottery were recovered from ditch group **11831** and may relate to funerary activity. Two of the tertiary fills (**10875** and **10892**) of this group produced an orange fabric (OAA1) fine oxidised plain-rim beaker. This could be a Nene Valley (NV2) beaker that has lost its colour coat. Gillam (1970, no. 81) has suggested a date of c.AD200–260 for this form.

The secondary fill (**11770**) produced twelve sherds from the base and body of a colour-coated Nene Valley (NV2) beaker with oval and slit indentations, which is dated to the late 3rd to mid-4th century (Howe *et al*. 1980, no. 51; Perrin 1999, 96–7).

These vessels fit into the range of vessel types most commonly used as grave goods and could either be redeposited grave goods derived from earlier graves or derive from memorial activity and feasting carried out in years following the funeral and recorded by Roman authors as cited above.

CONCLUSIONS

The pottery from burials excavated on the A1 scheme provides evidence for aspects of the burial ritual and perhaps memorial rites, as well as giving chronological evidence for the graves. At Bainesse, placing pottery in the grave begins perhaps in the mid- to late 2nd century but increases in the early to mid-3rd century. The placing of pottery in the graves apparently stopped in the later 3rd century. This mirrors a pattern detected at York by Monaghan (1997, 852 and table 130). Monaghan (*ibid*., 852) additionally notes that pottery vessels are usually not associated with most of the inhumations at York and are more closely connected to cremation burials and more general ritual offerings. At Hungate, York, 35 of 123 inhumation graves had ancillary ceramic vessels, whereas at Newington Hotel, York, 18 of 76 inhumations had ceramic ancillary vessels (Leary 2014; 2017a). The proportion at Bainesse was 15 inhumation graves of a total of 121 with a further seven ceramic vessels probably redeposited from their original position by the digging of later graves. This is somewhat less than at York. Burials at Newington Hotel start slightly earlier than at Bainesse, while at Hungate they increase in the mid- to late 3rd century, and these chronological differences may have affected the number of graves with ceramic grave goods. More likely the difference was due to custom and practice, or perhaps relative affluence, and either no pot could be spared or the people of Bainesse tended to place different or no grave goods in their inhumations. Another factor behind the smaller number of pots at Bainesse is that the dead who were most likely to have ceramic grave goods here were juveniles and babies, but these make up a small proportion of the dead in the Bainesse cemetery. If ceramic vessels are considered particularly appropriate for children but not adults at Bainesse Cemetery, this goes some way to explain why ceramic grave goods were less common at this cemetery in particular.

The selection of vessels observed during the A1 scheme was somewhat restricted. Most vessels were jars or beakers, but this pattern is repeated on many northern cemetery sites of similar date range, including Trentholme Drive, Hungate and Newington Hotel, in York, and Brougham cemetery (Gillam 1968; Evans 2004; Leary 2014; 2017a). Unlike at Hungate, Scurragh House contained little ceramic evidence for graveside rituals and the memorial festivals recorded by Roman authors (see Toynbee 1971, 63–4; Ovid 1931, 535–40). The pottery assemblage from non-funerary contexts and the subsoil contained no vessels pertaining to such rites, which is in stark contrast to the headpots, beakers, Castor boxes and tazzes found at York (Monaghan 1997, 850–4).

At Bainesse, small beakers and multiple grave goods are reserved particularly for the young. A young adolescent buried with a neonate (Grave **229**) was provided with three beakers, which were smashed onto the coffin, conjuring up a poignant scene of grief. This was paralleled in the cemetery at Brougham, where children in particular were accompanied by beakers (Cool and Evans 2004, 363). At Hungate, beakers were also more commonly placed with children and young people (Leary 2014). Two samian cups were present and no samian appeared to have been used as pyre goods.

The custom of detaching a section from the grave goods, perhaps to keep as a memorial, is indicated in two instances (Graves **201** and **219**), while in other graves the deposition of partial vessels may be another manifestation of the custom of keeping back parts of the grave goods for retention by the living as they grieve. The deliberate breaking of vessels on the coffin is paralleled at Hungate, York (Leary 2014, graves 47705 and 47672). At Hungate, the custom of breaking grave pots and then

using the sherds in the burial ritual is also seen in graves 47733 and 47737 (*ibid*.); in these instances the sherds were placed around the dead in the grave.

In the cremation burials, pottery vessels were found as urns containing the burnt remains, pyre goods that were offered on the pyre, burnt or scorched sherds gathered up with the human remains for burial, and within the grave backfill. These latter sherds are either domestic debris from prior use of the site or redeposited urns and pyre goods from earlier cremation burials. In two cases, unburnt fragments of a second vessel came from inside the cremation urn. These may be pyre goods that had escaped being scorched, or had been used during the burial ritual without being deposited on the pyre. Like the pyre goods, these were small jars and beakers. These may be equivalent offerings to the small jars and beakers in the inhumations, which were given to the dead on the pyre rather than in the grave. The pyre goods were given to the adult dead rather than the children, in contrast to the inhumation rite noted above.

Outside Bainesse Cemetery, ceramic grave goods were present only in one cremation burial at Brompton West, which contained a lidded BB1 jar dating to the 2nd century, and in five of six cremation burials at Brough Park. Four of these dated to the mid- to late 2nd century and one to in or after the second quarter of the 3rd century. Four were BB1 jars and these were all burnt and fragmentary, suggesting they had been on the pyre. One was a small jar, which was also partially burnt and fragmentary. The degree of burning at Bainesse seemed less severe than at Brough Park, suggesting a difference in cremation rite. The intensity of the scorching may well be a result of the *bustum* burial technique. At Fort Bridge, a single cremation deposit was contained in the lower part of a BB1 jar of early to mid-3rd century date. This data highlights the complexity of burial rites in the Roman period and gives a snapshot of the variety of rituals used by different communities in the hinterland surrounding *Cataractonium*.

OTHER POTTERY FROM THE FILLS OF GRAVES AND OTHER CEMETERY RELATED CONTEXTS

SAMIAN FROM THE FILLS OF GRAVES AND OTHER CEMETERY-RELATED FEATURES (GM)

The samian material recovered from the fills of the graves and other cemetery-related features is likely to be the result of previous domestic activities in the area, rather than being directly associated with the burials themselves. The material is summarised within Table 7.10.

The samian material recovered from Bainesse Cemetery dates from the Flavian period to the mid-2nd century AD. Samian types more typical of the mid- to late Antonine period (AD150–200) and East Gaulish vessels are completely absent. The samian recovered from the graves in Field 159A amounts to a smaller assemblage, but includes later samian types than found in the cemetery, and contains no South Gaulish vessels. The samian assemblage recovered from burial fills at *Cataractonium* includes a mixed range of fabrics and forms dating from the Flavian period to the 3rd century AD. With an average weight of 1.8g, the samian ware shows little indication that it comes from vessels involved in graveside rituals, they are likely to represent redeposited domestic material.

COARSE POTTERY FROM THE FILLS OF GRAVES AND OTHER CEMETERY RELATED FEATURES (RL)

The other pottery from the graves and cemetery-related features that was not associated with cemetery activity relates to domestic settlement in the area. These assemblages will be published and discussed in full in the forthcoming volumes (Fell forthcoming.; Ross and Ross forthcoming). In as much as the pottery sherds still give a *terminus post quem* for the fills that they were recovered from, the dating is included in Table 7.11. The details of this pottery are available in Appendix G, which ia available via the ADS.

Coarse pottery found in context with disarticulated human remains

These groups were examined to date the contexts and to assess whether any of the ceramics might relate to deposition of human remains. None of the pottery was considered to have a funerary function; it all appeared to be domestic in character. As such, the pottery from these groups dates the contexts in which the disarticulated remains occur and this chronological information was considered during the analyses of these remains. The pottery will be reported on in detail by both Fell (forthcoming) and Ross and Ross (forthcoming).

HAND-BUILT LATER PREHISTORIC AND ROMAN PERIOD POTTERY FROM BAINESSE CEMETERY (CC)

Eight contexts in Bainesse Cemetery contained a total of 48 sherds of hand-built pottery dating from the Pre-Roman Iron Age (PRIA) to the Roman period. In total, these weighed 741.5g and represented a maximum of 11 vessels. The data are summarised in Table 7.12. The majority of these contexts contained fewer than four sherds, which were generally small in size. There were two incidences of intra-context joins (within contexts **12587** (Grave **187**) and **12349** (Grave **260**). Three contexts from cemetery-associated enclosure ditches

Table 7.10: samian pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no.	Context	Sample	RF number	Grave/ pyre good status	Fabric	Function	Form	Earliest date	Latest date	Sherd count	Weight (g.)	Rim %
159A	13420	13421	-	-	R	SAMCG	-	-	120	200	2	2	-
	13435	13436	-	-	R	SAMEG	Dish	Dish	150	250	1	20	-
			-	-	R	SAMCG	Cup	DR33	120	200	1	3	5
			-	-	R	SAMMV	Dec. bowl	DR37	100	130	1	1	-
			-	-	R	SAMCG	-	-	120	200	1	1	-
	13494	13495	-	-	R	SAMCG	Dish	DR31	140	200	1	16	-
163C	11	12290	-	-	R	SAMCG	-	-	120	200	1	1	-
	17	13154	-	-	R	SAMCG	Dish	DR18/31	130	160	1	5	-
	36	12534	-	705	GG	SAMCG	Cup	DR46	120	200	7	97	100
	156	12607	AA	-	R	SAMCG	-	-	120	200	1	0.5	-
	161	12864	-	11217	GG	SAMCG	Cup	DR33	120	200	1	145	100
	183	12717	-	-	R	SAMCG	Dish	DR36	120	200	1	9	-
	184	12492	AA	-	R	SAMLG	-	-	45	110	1	0.5	-
	194	12428	-	-	R	SAMCG	-	-	120	200	1	1	-
163E	13586	13593	AA	-	R	SAMCG	-	-	120	200	1	0.1	-
172	6723	6724	-	-	R	SAMEG	-	-	150	250	2	2	-
	6729	6730	AA	-	R	SAMEG	-	-	150	250	1	0.1	-
	6785	6786	-	-	R	SAMCG	-	-	120	200	1	2	-
	6790	6791	AG	-	R	SAMBL	Cup	DR33	150	250	3	1	-
177	20571	20572	-	-	R	SAMCG	-	-	120	200	1	1	-
	20616	20613	AC	-	R	SAMCG	-	-	120	200	1	0.1	-
	20662	20663	-	-	R	SAMCG	-	-	120	200	1	2	-
	20812	20814	-	-	R	SAMCG	-	-	120	200	1	1	-
			AD	-	R	SAMLG	-	-	45	110	1	0.1	-
178	20159	20158	AA	-	R	SAMCG	-	-	120	200	1	0.1	-
			-	7477	R	SAMEG	-	-	150	250	1	0.1	-
			-	7477	R	SAMCG	Bowl	DR38	140	200	1	1	-
	20340	20341	-	-	R	SAMCG	Dec. bowl	DR37	120	200	1	1	-
			-	-	R	SAMCG	-	-	120	200	2	2	-
			-	-	R	SAMLG	-	-	45	110	2	2	-
			-	-	R	SAMLG	-	-	45	110	1	1	-
			AA	-	R	SAMCG	-	-	120	200	2	0.1	-
	20417	20415	-	-	R	SAMCG	Dish	DR31	160	200	1	2	-
			-	-	R	SAMCG	Dish	WA79	160	200	1	4	5
	20474	20429	-	-	R	SAMCG	Cup	DR27	120	160	1	7	5
			-	-	R	SAMLG	Cup	DR27	45	110	1	1	-
			-	-	R	SAMCG	Dec. bowl	DR37	120	200	1	3	-
			-	-	R	SAMCG	-	-	120	200	1	1	-
			-	-	R	SAMCG	Dec. bowl	DR37	140	200	1	6	-
		20479	-	-	R	SAMCG	-	-	120	200	1	3	-
			-	-	R	SAMCG	Dec. bowl	DR37	150	185	1	2	-

Table 7.10 (cont.): samian pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no.	Context	Sample	RF number	Grave/ pyre good status	Fabric	Function	Form	Earliest date	Latest date	Sherd count	Weight (g.)	Rim %
178	20476	20478	-	-	R	SAMCG	Dec. bowl	DR37	120	200	1	7	-
			-	-	R	SAMCG	Dec. bowl	DR37	120	200	1	2	-
			-	-	R	SAMCG	Dec. bowl	DR37	120	200	1	5	-
			-	-	R	SAMCG			120	200	1	3	-
	20532	20533	-	-	R	SAMCG	Bowl	Bowl	120	200	1	4	-
			-	-	R	SAMLG	Dec. bowl	DR37	70	110	1	1	-
			AB	-	R	SAMCG	-	-	120	200	1	0.1	-
			-	-	R	SAMLG	-	-	45	110	1	1	-
			AB	-	R	SAMLG	-	-	45	110	1	0.1	-
			AE	-	R	SAMCG	-	-	120	200	3	0.1	-
			AC	-	R	SAMCG	-	-	120	200	1	0.1	-
	20601	20602	AA	-	R	SAMCG	-	-	120	200	1	0.1	-
			AC	-	R	SAMCG	-	-	120	200	1	0.1	-
			AA	-	R	SAMLG	-	-	45	110	1	0.1	-
			AA	-	R	SAMMV	-	-	100	130	1	0.1	-
	20621	20622	-	-	R	SAMCG	Dish	DR18/31	120	170	1	2	3
			-	-	R	SAMLG	Dish	DR18/31	70	110	1	2	3
										Total	**73**	**375.5**	**221**

Key: R= residual pottery; GG= grave good; PG= pyre good; SGG = smashed grave goods; GG = grave goods; RGG = redeposited grave goods; RPG = redeposited pyre goods; SAMBL = East Gaulish, Blickweiler; SAMCG = Central Gaulish, Lezoux; SAMEG = East Gaulish, undet.; SAMLG = South Gaulish, La Graufesenque; SAMMV = Gentral Gaulish, Les Martres-de-Veyre.

contained a total of four hand-built sherds. The remaining 44 were recovered from four graves (**131**, **187**, **254** and **260**). Two examples of funnel-rim jars were identified; a cremation urn from Grave **260** (Figure 3.181) and a redeposited vessel from Grave **187**. In both cases the rims were shorter than is typical for the form, hence the suffix '-type'. Only the vessel from Grave **260** was considered to represent a grave good (see discussion below). All of the other hand-built sherds had been incorporated into the grave fills during back filling. The vessel from Grave **260** was associated with a radiocarbon date of cal AD135–335, consistent with the dates from the sites discussed below.

Funnel-rim jars are amongst the most distinctive type of hand-built vessel from eastern Yorkshire and are characterised by their long, everted rims, usually with flat or rounded, occasionally slightly bulged, lips. The profile of the rim is typically funnel-shaped and the shoulder/ body can be rounded, wide or narrow shouldered. The most distinctive examples are large and of storage jar size (e.g. Leary and Cumberpatch 2016, fig. 22 nos 24–25, fig. 23 nos 26–28) but smaller examples are also common (e.g. Leary and Cumberpatch 2016, fig. 23, 29 and 30). The shorter-rimmed examples may merge into the vertical-rim jar (VRJ) category and this element of overlap means that classification can be difficult, especially where small rim fragments are involved. On the Easington to Ganstead (EAG) gas pipeline sites, two distinct sub-types were noted, particularly amongst vessels in H4 fabrics. One group had thinner rims with no thickening, while the other was closer to vessels in the H2 fabric with (generally) shorter and thicker rims (Cumberpatch 2016, 116).

Funnel-rim jars seem to have been a popular and a long-lived vessel type, both factors that may account for the high degree of diversity in rim shape and vessel size. The form resembles three of Rigby's types; the flared-rim shouldered jar (2004, 39, fig. 6), the deep-flared shouldered jar (2004, fig. 7) and possibly the necked jar (2004, 40, fig. 7). More specifically, Challis and Harding have published examples from Pale End (1975b, fig. 46, nos 1 and 4), Levisham Moor A (1975b, fig. 49, no. 2) and Levisham Moor D (1975b, fig. 50, no. 11). Didsbury has published examples similar to the type defined

Table 7.11: coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
159A	13420	BB1	Straight walled bowl/ dish	R	120	-	1	2.6	-
		BB2	Straight walled bowl/ dish	R	140	-	1	6.1	-
		Cologne CC	-	R	-	-	1	-	-
		GRB	-	R	-	-	3	7.6	-
		NV CC	-	R	200	250	2	6.1	10
			-	-	-	-	2	-	-
		O	-	R	-	-	1	1.7	-
		OAA	-	R	-	-	4	0.2	-
	13435	FLA	Closed vessel	R	-	-	1	12	-
		GRA	Closed vessel	R	-	-	2	8.3	-
		GRB	-	R	-	-	1	7.6	-
			Plain	R	-	-	4	76.3	-
			Straight walled bowl/ dish	R	160	200	1	5.7	-
		GRC	-	R	-	-	1	2.3	-
	13460	EYCT	-	R	-	-	1	-	-
		GRB	Lugged jar type with everted rim	R	270	410	1	10.2	8
	13494	GRA	Everted rim	R	250	410	1	16.7	10
		GRB	BB1 type jar	R	120	200	1	8.3	-
			Everted rim	R	150	250	1	3.2	4
		RSA	-	R	-	-	2	-	-
163C	8	OAB	-	R	-	-	1	0.4	-
	10	OAB	-	R	-	-	1	0.3	-
	15	GRB	-	R	-	-	2	-	-
	44	BB1	Gillam 1976 no 27	GG	120	180	1	186.4	95
	55	BB1	BB1 type jar	R	200	350	2	2.6	-
	58	GRB	BB1 type jar	R	240	350	6	64.2	-
		OAB	-	R	-	-	1	9.1	-
	64	BB1	Closed vessel	GG	-	-	2	-	-
			Gillam 1976 no 8-9	SGG	240	300	77	946	75
			Plain	GG	200	350	9	60.1	-
		GRB	Beaker/small jar, small version of Monaghan 1987 3J3	SGG	150	250	31	164.7	100
			Closed vessel	R	-	-	1	-	-
		OBB	-	R	-	-	1	1.8	-
	67	GRB	Plain	R	-	-	1	54.1	-
	68	OAA	-	R	-	-	1	-	-
	69	GRA	Everted rim	R	150	250	1	2.2	5
		GRB	-	R	-	-	1	0.7	-
	70	GRA	-	R	-	-	1	2.1	-
			Closed vessel	R	-	-	2	-	-
		GRB	-	R	-	-	2	4.5	-
	73	GRA	-	R	-	-	1	1	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
163C	81	GRB	BB2 type cavetto rim jar	RGG	200	280	9	78	16
	85	GRB	-	R	-	-	1	1.4	-
	92	GRA	-	R	-	-	2	2.6	-
		GRB	Closed vessel	R	-	-	2	25.5	-
		NV CC	Pedestal	R	200	-	1	16.9	-
	93	BB1	BB1 type jar	R	120	-	1	6.4	-
	97	BB1	Gillam 1976 no 8-9	R	200	250	1	4	5
	113	NV CC	-	R	-	-	1	0.7	-
	119	OAA	-	R	-	-	2	-	-
	125	GRB	Everted rim	R	-	-	1	5.3	2
	135	GRA	BB2 type everted rim jar	R	150	250	1	4.9	10
	141	GRB	Jar with lipped everted rim	R	70	200	1	11.2	7
	149	GRB	Closed vessel	R	-	-	2	14.4	-
		NV CC	-	R	200	-	1	-	-
			Indented beaker	R	200	300	1	5.1	-
			Indented beaker with curving everted rim	RGG	200	230	2	37	10
	151	OBB	Everted rim	R	-	-	1	-	-
		OBC	Jar	R	270	410	5	52.7	-
	163	GRA	-	R	-	-	1	4.2	-
		TRIER	Indented beaker with long neck beaded at rim	RGG	200	275	16	66.5	100
	165	NV CC	-	R	200	-	1	-	-
	166	FLB	-	R	-	-	1	2.2	-
	172	GRA	Round bodied beaker with everted rim	RGG	70	200	10	34.6	42
	177	GRA	Beaker/small jar, small version of Monaghan 1987 3J3	GG	150	250	2	243.7	140
	181	GRA	Beaker/small jar, small version of Monaghan 1987 3J3	GG	150	250	1	127.1	100
			Unguent pot	GG	120	170	1	196.3	100
	183	BB1	BB1 type jar	R	200	350	1	12.7	-
	184	O	-	R	-	-	1	-	-
	186	GRA	Closed vessel	R	70	200	3	38.8	-
	187	GRB	-	R	-	-	3	9.2	-
		OAB	-	R	-	-	2	-	-
	191	NV CC	Indented beaker with curving everted rim	GG	180	250	11	92.8	33
			-	GG	180	250	11	-	41
	194	GRA	-	R	-	-	1	2.6	-
		GRB	Everted rim	R	150	250	1	2.9	-
			Plain	R	-	-	1	75.2	-
		NV CC	-	R	200	-	1	-	-
	196	NV CC	-	R	200	-	1	2.2	-
	198	BB1	-	R	120	-	1	2.1	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
163C	199	GRB	BB2 type cavetto rim jar	GG	200	280	19	259.4	82
	201	BB1	Gillam 1976 no 8	GG	230	270	63	941	80
			-	R	230	270	4	11.2	5
			Plain	GG	120	-	2	-	-
	201	GRB	Closed vessel	R	-	-	1	9.2	-
		GRC	Closed vessel	R	-	-	1	4.7	-
		NV CC	Indented beaker	R	200	300	2	-	-
			Plain rim beaker	GG	190	260	12	82.2	70
		OAA	Perrin 1999 no 169 waisted beaker	GG	200	300	1	146.9	84
	202	NV CC	Indented beaker	R	200	300	3	7.4	-
	204	TRIER	Indented beaker	R	200	275	1	6.4	-
	205	GRB	BB2 type cavetto rim jar	GG	200	280	23	248.2	100
		OBB	-	R	-	-	1	17.3	-
	206	GRB	BB1 type jar	RGG	200	350	3	19.1	-
	208	BB1	Straight walled bowl/ dish	R	-	-	1	2.9	-
		GRB	BB2 type cavetto rim jar	R	180	280	5	11.4	3
		GRC	BB1 type jar	R	200	350	1	5.7	-
	209	BB1	-	R	200	350	2	5.7	-
		GRA	Closed vessel	R	-	-	1	4.9	-
	215	NV CC	Funnel rim beaker	GG	200	300	2	-	1
			Plain rim bag beaker	RGG	220	260	21	114.4	20
	219	TRIER	Symonds type 1	GG	200	275	2	139.7	185
	221	O	-	R	-	-	1	-	-
	229	NV CC	-	R	200	-	1	-	-
			Bag beaker with late cornice rim, Gillam 1970 no. 87-8	SGG	200	250	36	98	85
			Plain rim bag beaker	-	260	300	1	-	10
			-	SGG	260	300	49	164	80
		OAA	Closed vessel	R	-	-	1	5.1	-
		OBA CC	-	GG	-	-	1	0.5	-
			Plain rim bag beaker	SGG	220	260	18	100	100
	234	BB1	BB1 type jar	R	200	350	4	21.7	-
		GRA	Closed vessel	R	-	-	1	4.5	-
	235	BB1	Developed flanged bowl	R	270	350	4	30.7	-
		FLA	Closed vessel	R	-	-	1	9.9	-
	239	GRB	BB1 type jar	R	200	350	1	-	-
			Closed vessel	R	-	-	2	9	-
		NV CC	Plain rim bag beaker	GG	220	260	29	191.4	100
			Teardrop shape beaker	GG	-	-	9	168.8	85
	240	FLB	-	R	-	-	1	4.8	-
		GRA	Beaker/small jar, small version of Monaghan 1987 3J3	GG	150	250	1	211.6	100
		NV CC	Plain rim beaker	GG	220	260	1	104.9	100

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
163C	244	OAB	-	R	-	-	1	-	-
	256	BB1	BB1 type jar	R	200	350	1	11	-
		GRA	-	GG	-	-	22	214.8	-
	257	BB1	Small BB type jar	PG	120	300	3	16.7	-
		GRB	Indented beaker	PG	160	300	9	17.6	-
	258	OAC	-	R	-	-	2	-	-
	260	GRC	Tall everted rim with tapering rim tip and slight lid-seating	URN	270	410	4	164.8	9
	261	BB1	Splayed rim	PG/GG	200	300	8	20.7	14
		OAB	-	URN	-	-	6	-	-
			Plain	URN	-	-	42	299.2	-
	262	FLA	Flagon	R	70	200	1	4.8	-
		GRB	Bead rim	R	-	-	1	-	-
	263	BB1	-	URN	120	-	6	-	-
			-	R	120	-	5	-	-
			-	-	200	-	15	-	-
			Gillam 1976 no 10	GG	250	350	33	99	6
			Gillam 1976 no 8	PG	240	270	75	370	21
		GRA	-	R	-	-	2	2.7	-
			Carinated	R	70	140	1	4.8	-
		GRB	-	R	-	-	6	-	-
			Closed vessel	R	-	-	1	2.7	-
		NV CC	-	R	200	-	1	-	-
		OBB	Neckless jar with short everted rim	PG	70	130	1	-	-
	265	NV CC	-	R	200	-	1	-	-
	267	GRA	Copying BB2 type cavetto rim jar	PG	180	280	30	361.4	30
		NV CC	Indented beaker with curving everted rim	PG	200	250	24	110.6	35
			-	PG	200	250	20	-	-
	269	GRB	Round bodied beaker with everted rim	URN	70	130	22	666.1	80
	271	GRA	Plain	PG/GG	-	-	8	49.4	-
			-	URN	-	-	11	352.8	-
	273	BB1	Closed vessel	URN	-	-	1	3.1	-
			Plain	URN	200	350	17	109.4	-
	Gully 12353/ 12332	BB1	BB1 type jar	R	120	-	1	-	-
		GRA	Closed vessel	R	200	350	8	95.9	-
			-	-	-	-	9	37.5	-
		GRB	-	R	-	-	2	2.3	-
			Closed vessel	PG	-	-	6	27	-
			Plain	RPG	-	-	5	38.5	-
		GRC	-	R	-	-	1	2.4	-
		NV CC	-	RPG OR RITUAL	200	-	4	-	-
			-	RITUAL	200	-	2	-	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
163C	Gully 12353/ 12332	NV CC	Closed vessel	R	200	-	2	3.2	-
			Plain rim bag beaker	RPG	200	230	33	46.5	29
			-	R	200	230	7	42	20
	Ditch 12415	BB1	Gillam 1976 no 8	GG	240	270	2	53.2	20
		OBA	Closed vessel	R	-	-	1	6.9	-
	Ring ditch 12346	BB1	Grooved rim dish/bowl	R	200	230	2	13.7	7
163E	13586	BB1	-	R	270	410	13	46.2	-
		FLB	-	R	-	-	1	0.9	-
		GRA	Closed vessel	R	-	-	1	12.6	-
		GRC	Developed flanged bowl	R	270	350	1	19.3	9
		OAA	-	R	-	-	1	12.8	-
			Flanged segmental bowl with small bead rim below level of small curving flange	R	-	-	9	43.8	12
172	6729	GRB	Gillam 1976 no 3	PG	160	200	7	31.5	1
		NV CC	-	R	200	-	1	0.4	-
	6782	BB1	Gillam 1976 no 21	PG	160	200	80	299.4	48
			-	-	-	-	16	32.4	19
	6783	BB1	BB1 type jar	URN	-	-	52	196.9	-
			Gillam 1976 no 3	PG	140	180	42	201.9	11
	6785	BB1	Everted rim	PG	160	250	114	356.3	19
			Plain	R	120	-	32	78.7	-
	6790	BB1	BB1 type jar	GG OR PG	120	-	2	5.6	-
			-	-	200	-	9	29.2	-
176 FB	18207	BB1	BB1 type jar	URN	200	240	1	401.4	-
177	20571	FLA	-	R	-	-	3	16.7	-
	20606	FLB	-	R	-	-	1	11	-
		GRB	-	R	-	-	1	1.6	-
	20616	GRB	Everted rim	R	-	-	1	1.3	-
	20662	GRB	Chamfered	R	150	250	1	43.4	-
			Closed vessel	R	-	-	1	18.1	-
		OBB	Plain rim lid	R	70	200	1	9.8	2
	20812	GRB	-	R	-	-	1	11.8	-
			Closed vessel	R	-	-	2	9.2	-
			Everted rim jar with rebated rim tip, Roxby type	R	-	-	1	10.6	9
			Lipped rim bowl/dish	R	120	200	1	10.2	5
			Neckless jar with short everted rim	R	70	130	1	12.2	12
			Open vessel	R	-	-	2	29.7	-
	20955	GRB	BB1 type jar	R	120	200	2	27.2	-
		OAA	Closed vessel	R	-	-	1	2.8	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
177	20960	NV CC	Funnel rim beaker	R	200	-	4	5.7	4
178	20106	BB	Plain rim dish	R	120	-	1	6.7	2
		GRA	Pentice moulded beaker	R	270	410	2	1.5	-
	20114	GRB	Wide mouthed jar	R	250	350	2	31	-
	20159	GRC	-	R	-	-	1	5.6	-
			Closed vessel	R	270	410	2	63.7	-
	20340	BB1	-	R	-	-	1	1.6	-
	20340	BB1	BB1 type jar	R	120	-	2	10.1	-
		FLB	-	R	70	230	2	6.5	-
			-	-	-	-	2	15	-
		GRA	BB1 type jar	R	120	200	1	4.6	-
			Plain rim lid	R	70	130	1	28.6	16
		GRB	Hemi-spherical bowl with bead rim	R	70	200	1	32.5	2
			Large flat-rim bowl/dish	R	200	300	1	38.4	12
			Rusticated jar	R	70	130	1	15.6	-
		GRC	Closed vessel	R	250	-	1	12.3	-
		NV CC	Indented beaker with funnel neck rim	R	250	300	1	3.4	11
			Scroll beaker	R	250	350	1	2.1	-
		OAB	-	R	-	-	2	4	-
		OBB	Bead rim and flange bowl	R	100	200	1	33.1	15
	20400	BB1	BB1 type jar	URN	120	-	7	233.5	-
		GRB	Plain rim lid	URN LID	70	200	1	10.3	5
	20417	Cologne CC	Roughcast beaker	R	120	160	2	6.4	-
		CRA RE	Corder 1937 type 1	R	270	410	1	32.7	9
		GRA	Rusticated jar	R	70	130	1	2.7	-
		GRB	BB1 type jar	R	120	-	1	3.6	-
			Closed vessel	R	120	-	1	8.7	-
			-	-	-	-	2	16.1	-
		OAB	-	R	-	-	1	1.9	-
	20418	GRA	-	R	-	-	1	0.3	-
	20474	BB1	BB1 type jar	R	120	-	3	11	-
			Straight walled bowl/ dish	R	120	-	1	11.2	-
		CRA RE	Closed vessel	R	270	410	1	4.3	-
		FLA	-	R	-	-	3	8.9	-
			Closed vessel	R	-	-	1	0.6	-
		FLB	-	R	-	-	1	1.6	-
		GRA	Closed vessel	R	-	-	1	6.4	-
			Simple base	R	-	-	4	23.3	-
		GRB	-	R	-	-	3	18.8	-
			BB1 type jar	R	120	200	2	6.5	-
	20474	GRB	Closed vessel	R	-	-	2	15.7	-
		NV CC	Indented beaker with funnel neck or long necked rim	R	250	350	1	3.4	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
178	20474	OAA	-	R	-	-	5	10.3	-
		OAB	-	R	-	-	1	1.4	-
		OBA	Closed vessel	R	-	-	5	8.6	-
	20476	BB1	Gillam 1976 no 2/3	R	120	150	1	15	5
		FLA	3 ribbed handle	R	-	-	1	23.2	-
		GRB	-	R	-	-	2	8	-
			Plain	R	-	-	2	16.8	-
			Wide-mouthed jar with hooked rim	R	200	410	1	17.8	9
		NV CC	Indented beaker	R	200	300	3	9.4	-
		OAA	-	R	-	-	1	36.2	-
	20532	BB1	Grooved rim dish/bowl	R	180	300	1	4.5	3
			Straight walled bowl/ dish	R	180	350	1	18.5	-
		Cologne CC	Roughcast beaker	R	-	-	1	1.1	-
		GRA	Beaker	R	-	-	1	3	-
			Jar with short everted rim	R	-	-	1	7.8	8
		GRB	-	R	70	200	1	13.6	-
			Chamfered	R	-	-	1	22.8	-
			Closed vessel	R	-	-	1	3.9	-
			Straight walled bowl/ dish	R	-	-	1	4.1	-
		GRC	Closed vessel	R	250	410	2	14.9	-
		NV CC	Indented beaker	R	200	300	2	5.1	-
		OAB	-	R	-	-	1	2.4	-
	20601	FLA	Flagon	R	-	-	1	21.7	-
		FLB	-	R	-	-	2	7.8	-
		GRA	Everted rim beaker	R	70	200	1	4.2	10
		GRB	-	R	-	-	1	6.8	-
			Dish/bowl with slightly triangular rounded rim	R	150	250	1	14.1	6
			Straight walled bowl/ dish	R	-	-	1	22	-
	20621	FLA	-	R	-	-	3	11	-
		FLB	-	R	-	-	1	9.4	-
		GRA	-	R	-	-	1	1.5	-
		GRB	BB2 type everted rim jar	R	150	250	1	7.9	6
			Rusticated jar	R	70	130	1	3.1	-
		NV CC	Indented beaker	R	250	300	2	5.8	-
179	9343	GRB	-	R	-	-	2	3.2	-
209	10825	LOOL	Closed vessel	GG	240	300	9	28.8	-
			-	GG	-	-	4	-	-
			-	GG	240	300	1	-	-
			Gillam 1976 no 18	GG	240	300	20	121	11
			-	RGG	240	300	3	32.9	32
			Plain	GG	240	300	5	20.8	-
	11803	NV CC	-	R	200	-	2	1.5	-

Table 7.11 (cont.): coarseware pottery from graves and cemetery features, including datable residual sherds that provide a terminus post quem.

Field	Grave no	Ware	Form description	Grave/ pyre good status	Start date	End date	Sherd count	Sherd weight (g)	Rim %
209	11808	NV CC	-	R	200	-	6	1.3	-
		OAA	-	R	-	-	1	-	-
210	7830	GRB	Round bodied beaker with everted rim	RGG	120	200	6	23	15
	7859	NV CC	-	R	200	-	1	-	-
	7888	NV CC	-	R	200	-	1	-	-
		OAA	-	R	-	-	1	1	-
	10712	GRC	-	R	250	350	1	-	-
210	10712		-	-	270	350	1	-	-
			Indet	R	-	-	1	15.8	-
		NV CC	Beaker	R	200	-	2	4.3	-
211	7671	CRA RE	Corder 1937 type 12	RGG	270	370	13	64.6	17
		GRA	-	R	-	-	1	-	-
	7683	GRB	-	R/GG/URN	-	-	1	-	-
			Plain	R	200	-	5	54.5	-
265	31507	CT	Dales jar	GG	200	350	59	187	27
						Total	**1752**	**12925.8**	**2846**

Key: R= residual pottery; GG= grave good; PG= pyre good; SGG = smashed grave goods; GG = grave goods; RGG = redeposited grave goods; RPG = redeposited pyre goods; BB = black burnished wares (probably local copies); BB1 = Black Burnished ware 1; BB2 = Black Burnished ware 2; Cologne CC = Cologne colour-coated ware; CRA RE = Crambeck grey ware; CT = Calcareously tempered ware; EYCT = East Yorkshire calcite-tempered ware; FLA = White ware; FLB = White slipped ware; GRA = Fine grey ware; GRB = Sandy grey ware; GRC = Gritty grey ware; LOOL = Calcareously tempered ware (?Oolitic limestone); NV CC = Nene Valley colour-coated ware; O = Oxidised ware; OOA/OBA = Fine oxidised ware; OAB/OBB = Sandy oxidised ware; OAC/OBC = Gritty oxidised ware; OBA CC = Fine oxidised ware with slip/colour coat; RSA = Red slipped ware; TRIER = Trier black-slip ware.

here from High Wold, Bridlington (with a distinctive internal flange on the lip; 2009a, fig. 23) and Sewerby Cottage (in H3 and H4 fabrics; 2009b, fig. 177, nos 30 and 36). At Shiptonthorpe the degree of variation was specifically noted (Evans 2006) while similar vessels are referred to from Hawling Road, Market Weighton (Evans and Creighton 1999, illus. 7.17: G28-J01, illus. 7.18: G60-J03; cf Corder and Kirk, 1932, fig. 30, nos 1 to 9).

Funnel-rim jars were identified on many of the EAG sites (Old Ellerby, Burton Constable, Brandywell, Nuttles, Lelley, Burstwick, Bluegate Corner, Scorborough Hill, and Gilcross; Cumberpatch 2016, 116–17). The largest numbers came from Old Ellerby and Burton Constable where the type was identified in contexts that spanned the Late Iron Age to the later Roman period.

The dating of the examples from Westermost Rough was wide but the type was much more common in the 2nd century AD and later contexts than it was in earlier phases of the site (Leary and Cumberpatch 2016). This is consistent with the evidence from both Shiptonthorpe and Hawling Road, while examples from Tophill Low included one that was associated with 3rd-century Romano-British pottery (Cumberpatch 2013).

The type was relatively common in the East Coast pipeline assemblages and the date ranges included the late 1st to early 3rd century AD and the 1st to 2nd centuries AD, broadly consistent with the evidence from elsewhere. Examples from the Spellowgate to Kilham pipeline sites were common in 3rd- and 4th-century contexts. There appeared to be no obvious relationship between form and fabric with examples in calcite and quartz-tempered fabrics not only equally common but also occurring alongside each other (Cumberpatch 2012).

Features with disarticulated human remains

Disarticulated human remains were present in the fills of ditches **25124**, **6759**, **6734** and **6727**. The pottery sherds from these features did not suggest any relationship with these human remains but fitted the pattern of domestic ceramic debris from the settlement in this area. The ceramic evidence is, therefore, only pertinent to the dating of the infilling of the features.

Ditch **6759** had little well-dated pottery but a black-burnished ware (BB1) scrap from the sample provided a date after c.AD120. The sherds from ditch **6734** included a grey ware (GRB16) everted-rim jar with right-angled lattice burnishing and a small scrap of Lezoux black slip ware. These suggest a date range in the late 2nd to mid-3rd century for the ditch's infilling. Ditch **6727** yielded

Table 7.12: hand-built pottery from Bainesse Cemetery.

Context	Feature	Fabric	No	Wt (g)	ENV	Rim diam. (cm)	Rim%	Part	Form	Decoration	Date range	Sample
12984	Grave 131	H2 Quartz	1	8	1	-	-	Body sherd	Hollow ware	U/Dec	PRIA – Roman	-
12587	Grave 187	H2 Quartz	3	40	1	U/ID	U/ID	Rim	Funnel-rim jar type	Smoothed int & ext	C4th BC – C4th AD	-
12814	Grave 254	H2 Fine quartz	1	3	1	-	-	Body sherd	Hollow ware	Smoothed ext	PRIA – Roman?	AA
12348	Grave 260	H2 Fine quartz	1	2	1	U/ID	U/ID	Rim	Vertical-rim Jar type	Smoothed int & ext	C4th BC – LC3rd AD	AA
12348	Grave 260	H2 Fine quartz	1	5	1	-	-	Body sherd	Hollow ware	Smoothed int & ext	PRIA – Roman	AA
12348	Grave 260	H2 Fine quartz	1	0.5	1	-	-	Body sherd?	U/ID	U/Dec	PRIA – Roman	-
12349	Grave 260	H2 Fine quartz	36	607	1	10	10	Profile	Funnel-rim jar type	Smoothed ext	C4th BC – C4th AD	-
12372	Enclosure ditch 12368	H2 Quartz	1	20	1	-	-	Body sherd	Hollow ware	Smoothed ext	PRIA – Roman	-
12444	Enclosure ditch 12438	H2 Quartz	1	8	1	-	-	Body sherd	Hollow ware	Burnished ext	LPRIA – Roman	-
12515	Enclosure ditch 12286/12520	H2 Fine quartz	1	13	1	-	-	Body sherd	Hollow ware	Smoothed int & ext	PRIA – Roman	-
12515	Enclosure ditch 12286/12520	H2 Quartz	1	35	1	-	-	Body sherd	Hollow ware	Smoothed int & ext	PRIA – Roman	-
		Total	**48**	**741.5**	**11**							

Key: ENV= maximum estimated number of vessels; U/Dec = undecorated; U/ID = unidentified.

only one small scrap of grey ware (GRB2), providing a Roman date that perhaps falls somewhere between the late 1st to 2nd century. The fill (**25123**) of ditch **25124**, contained three PNK GT sherds from a narrow-necked, everted-rim jar (41g, RE 21%). This is not a closely datable form, but the pink grogged fabric (PNK GT) had its widest distribution during the later 3rd and 4th century AD (Booth and Green 1989, 77–85).

POTTERY CATALOGUE

The catalogue below contains entries for all ceramic vessels identified as grave or pyre goods, cremation urns, and those that, with any certainty, could be considered to represent vessels used as part of inhumation or cremation rites that had been redeposited in the backfill of another burial feature. All ceramic material, including sherds recovered from grave backfills, has been recorded and data can be found in Appendix G. The fabric series can be found in Appendix F.

BOWBRIDGE LANE

1 Hand-built hollow ware vessel. Fabric: H2 coarse rock-tempered. Count: 268, Weight: 612g, RE: 0%. Pre-Roman Iron Age to Roman. Bowbridge Lane, Field 145, Grave 10003, Context 10002, RF15227. Not illustrated due to fragmentation.

BAINESSE CEMETERY

2 Complete Dr.46 samian cup. Fabric: Lezoux. Count: 7, Weight: 97g, RE: 100%. AD120–200. Bainesse Cemetery, Field 163C, Grave 36, Context 12534, RF705. Figure 3.28. Placed graved good.

3 Almost complete handled beaker. Fabric: GBB1. Count: 1, Weight: 186g, RE: 95%. Gillam (1976) no. 27. c.AD120–180. Bainesse Cemetery, Field 163C, Grave 44, Context 12770, RF10544. Figure 3.33. Placed grave good.

4 Upper part of a small burnished jar or beaker with an everted rim. Fabric: GRB2. Count: 31, Weight: 165g, RE: 100%. Mid-2nd to mid-3rd century AD. Bainesse Cemetery, Field 163C, Grave 64, Context 12805, RF11165, Figure 3.42. Smashed grave good.

5 Almost complete jar with everted rim, shoulder groove and obtuse lattice. Girth is less than the rim diameter. Fabric: BB1. Count: 77, Weight: 946g, RE: 75%. Gillam (1976) nos 8–9. c.AD240–270. Bainesse Cemetery, Field 163C, Grave 64, Context 12805, RF15228, Figure 3.42. Smashed grave good.

6 Incomplete everted-rim jar with obtuse lattice burnish. Fabric: GRB11. Count: 9, Weight: 78g, RE: 16%. c.AD200–280. Bainesse Cemetery, Field 163C, Grave 81, Context 12556, RF726, Figure 3.51. Redeposited grave good.

7 Incomplete Nene Valley indented scale beaker with everted rim. Fabric: NV1. Count 3: Weight: 37g, RE: 10%. Early 3rd century. Bainesse Cemetery, Field 163C, Grave 149, Context 12530, RF15229, Figure 3.91. Redeposited grave good.

8 Complete Dr.33 samian cup. Complete but illiterate stamp. Fabric: Lezoux. Count: 1, Weight: 145g, RE: 100%. AD120–200. Bainesse Cemetery, Field 163C, Grave 161, Context 12864, RF11217, Figure 3.99. Placed grave good.

9 Incomplete Trier black-slip, necked, globular beaker with beaded rim, slit indentations and spaced lines of rouletting. Fabric: Trier. Count: 16, Weight: 67g, RE: 100%. Symonds (1992) type 1 group 33. c.AD200–275. Bainesse Cemetery, Field 163C, Grave 163, Context 12683, RF15230, Figure 3.102. Disturbed graved good.

10 Incomplete everted-rim beaker. Fabric: GRA6. Count: 10, Weight: 35g, RE: 42%. Late 1st to 2nd century AD. Bainesse Cemetery, Field 163C, Grave 172, Context 12704, RF15231, Figure 3.107. Redeposited grave good?

11 Complete small jar/beaker with short everted rim. Rim and base are uneven. Fabric: GRA6. Count: 1, Weight: 120g, RE: 100%. cf. Monaghan (1987) 3J3. AD150–240/80. Bainesse Cemetery, F163C, Grave 177, Context 12976, RF11292, Figure 3.112. Placed grave good.

12 Near-complete short everted-rim beaker. Slightly distorted with two small spalled areas on the girth. Fabric: GRA6. Count: 1, Weight: 124g, RE: 40%. cf. Monaghan 1987 3J3. AD150–240/80. Bainesse Cemetery, Field 163C, Grave 177, Context: 12976, RF11293, Figure 3.112. Placed grave good.

13 Complete small jar/beaker with short everted rim and vertical burnished line decoration. Fabric: GRA6. Count: 1, Weight: 127g, RE: 100%. cf. Monaghan (1987) 3J3. AD150–240/80. Bainesse Cemetery, Field 163C, Grave 181, Context 12867, RF11218, Figure 3.117. Placed grave good.

14 Near-complete unguent pot. Fabric: GRA6. Count: 1, Weight: 193g, RE: 100%. Gillam (1970) nos 36–37. AD90–160 and 120–170 respectively. This example is rilled as no. 37. 2nd century. Bainesse Cemetery, Field 163C, Grave 181, Context 12867, RF11219, Figure 3.117. Placed grave good.

15 Incomplete Nene Valley indented beaker with curved rim. Fabric NV1. Count: 11, Weight: 93g, RE: 33% (RE including sample sherds: 74%). cf. Gillam (1970) no. 92. c.AD180–250. Bainesse Cemetery, Field 163C, Grave 191, Context 12562, RF755, Figure 3.126. Placed grave good.

16 Near complete everted-rim jar. Fabric: GRB11. Count 19, Weight 259g, RE: 82%. Gillam (1970) no. 144 dated AD200–280 in the North. Copying BB2 jars of mid-2nd to mid-3rd century. Bainesse Cemetery, Field 163C, Grave 199, Context 13190, RF11834, Figure 3.136. Placed grave good.

17 Near-complete waisted beaker with near funnel neck rim. Fabric: OAA3. Count 1, Weight: 147g, RE: 84%. Similar in form to Nene Valley waisted beakers dated to c.AD200–250 (Perrin 1999, figure 61 nos 169–71). Bainesse Cemetery, Field 163C, Grave 201, Context 12468, RF666, Figure 3.138. Placed grave good.

18 Incomplete Nene Valley plain-rim bag beaker with groove below the rim. Fabric: NV1. Count: 12, Weight: 82g, RE: 70%. Howe *et al*. (1980) no. 44, late 2nd century, and Gillam (1970) no. 78 or 81, c.AD190–260. Bainesse Cemetery, Field 163C, Grave 201, Context 12468, RF679, Figure 3.138. Placed grave good.

19 Complete everted-rim jar with obtuse lattice burnish. Sherds were found in grave fill and dispersed nearby in ditch fill 12425 that complete the vessel. Fabric: BB1. Count: 63, Weight: 941g, RE 80%. Gillam (1976) no. 8. c.AD230–260. Bainesse Cemetery, Field 163C, Grave 201, Context 12462, RF15232, Figure 3.138. Placed grave good.

20 Near-complete profile of an everted-rim jar with obtuse lattice burnish. Fabric: GRB11. Count: 23, Weight: 248g, RE: 100%. Gillam (1970) no. 144. AD200–280. Bainesse Cemetery, Field 163C, Grave 205, Context 12816, RF11188, Figure 3.144. Placed grave good.

21 Incomplete plain-rim bag Nene Valley beaker with lattice in paler clay applied *en barbotine* and fired to a pale orange colour. Fabric: NV2. Count: 21, Weight: 114g, RE: 21%. Profile as Gillam (1970) no. 45. c.AD220–260. Bainesse Cemetery, Field 163C, Grave 215, Context 13179, RF11896, Figure 3.152. Redeposited grave good?

22 Complete Trier black-slip globular-necked

beaker with lines of rouletting. Fabric: Trier. Count: 1, Weight: 60g, RE: 100%. Symonds (1992) group 32 no. 474 squat. AD200–275. Bainesse Cemetery, Field 163C, Grave 219, Context 13195, RF11781, Figure 3.156. Placed grave good.

23 Near-complete Trier black-slip indented beaker with oval indentations, rows of rouletted decoration and medium neck. Fabric: Trier. Count: 1, Weight: 80g, RE: 85%. Symonds (1992) group 35 nos 522 and 528. AD200–275. Bainesse Cemetery, Field 163C, Grave 219, Context 13195, RF11782, Figure 3.156. Placed grave good.

24 Near-complete plain-rim bag beaker. Fabric: OBA3CC. Count: 18, Weight: 100g, RE: 100%. cf. Gillam (1970) no. 83 and Howe *et al*. (1980) no. 44. c.AD260–320. Bainesse Cemetery, Field 163C, Grave 229, Context 13078, RF11396, Figure 3.161. Smashed grave good.

25 Near-complete Nene Valley plain-rim rouletted bag beaker. Fabric: NV1. Count: 49, Weight: 164g, RE: 80%. Similar profile to Gillam (1970) no. 83, Howe *et al*. (1980) no. 45 and Gillam (2005) no. 8. AD260–300. Bainesse Cemetery, Field 163C, Grave 229, Context 13078, RF11625, Figure 3.161. Smashed grave good.

26 Incomplete Nene Valley plain bag beaker with late everted rim. Fabric: NV2. Count: 36, Weight: 98g, RE: 85%. Similar profile to Gillam (2005) no. 14. AD200–250. Bainesse Cemetery, Field 163C, Grave 229, Context 13078, RF11626, Figure 3.161. Smashed grave good.

27 Near-complete Nene Valley teardrop shaped beaker with white painted scrolls, long neck and bung foot. Fabric: NV2. Count: 9, Weight: 169g, RE: 85%. Possibly mid-3rd century AD. Bainesse Cemetery, Field 163C, Grave 239, Context 13136, RF11684, Figure 3.170. Placed grave good.

28 Complete grooved Nene Valley plain rim beaker decorated with three rows of rouletting. Fabric: NV2. Count: 29, Weight: 192g, RE: 100%. Howe *et al*. (1980) no. 45. c.AD220–260. Bainesse Cemetery, Field 163C, Grave 239, Context 13136, RF11720, Figure 3.170. Placed grave good.

29 Complete Nene Valley plain-rim grooved beaker. Fabric: NV1. Count: 1, Weight: 105g, RE: 100%. Profile as Gillam (1970) no. 81. c.AD220–260. Bainesse Cemetery, Field 163C, Grave 240, Context 13182, RF11785, Figure 3.172. Placed grave good.

30 Complete small jar/beaker with vertical burnished lines. Fabric GRA6. Count: 1, Weight: 212g, RE: 100%. Monaghan (1987) type 3J3. AD150–240/80. Bainesse Cemetery, Field 163C, Grave 240, Context 13182, RF11786, Figure 3.172. Placed grave good.

31 Incomplete jar, base and body only. Fabric: GRA6. Count: 22, Weight: 215g, RE: 0%. Bainesse Cemetery, Field 163C, Grave 256, Context 13056, RF15233, Figure 3.177. Placed grave good (disturbed).

32 Incomplete indented beaker. Sherds burnt and partially oxidised. Fabric: GRB27. Count: 5, Weight: 17g, RE: 0%. Corder (1950) type 9a and Croom and Bidwell (2012) type 9. Early 3rd century AD. Bainesse Cemetery, Field 163C, Grave 257, Context 12400, RF15234, Figure 3.179. Pyre good.

33 Incomplete small jar/beaker with eroded lattice decoration. Sherds burnt and mostly oxidised. Fabric: BB1. Count: 3, Weight 16.7g, RE: 0%. 2nd to 3rd century AD. Bainesse Cemetery, Field 163C, Grave 257, Context 12400, RF15235, Figure 3.179. Pyre good.

34 Near-complete hand-built jar with blunt-ended, tall, everted rim. Vertical finger grooves are present inside the lower body. Scorched on one side. For comparanda and dating discussion see Grave 260 text. Fabric: H2 quartz. Count: 36, Weight: 637g, RE: 26%. Bainesse Cemetery, Field 163C, Grave 260, Context 12349, RF15236, Figure 3.181. Cremation urn.

35 Incomplete jar. Fabric: OAB1. Count: 42, Weight 299g, RE: 0%. 2nd century AD+. Bainesse Cemetery, Field 163C, Grave 261, Context 12355, RF15237, Figure 3.183. Cremation urn.

36 Incomplete jar with everted rim and internal rilling/wipe marks. Fabric: BB1. Count 8, Weight: 20.7g, RE: 14%. Late 2nd century AD+. Recovered from inside Cat. no. 35. Bainesse Cemetery, Field 163C, Grave 261, Context 12356, RF15238, Figure 3.183. Grave good or an offering during the burial rite.

37 Incomplete Nene Valley indented scale beaker with curving everted rim. Fabric: NV1. Count: 24, Weight 111g, RE: 34%. Howe *et al*. (1980) no. 40 and Perrin (1999) 94. Late 2nd to early 3rd century. Bainesse Cemetery, Field 163C, Grave 267, Context 12311, RF15239, Figure 3.187. Pyre good.

38 Incomplete everted-rim jar with acute lattice burnish copying BB2 jar forms. Fabric: GRA6. Count: 30, Weight: 361g, RE: 30%. c.AD180–280. Bainesse Cemetery, Field 163C, Grave 267, Context 12311, RF15240, Figure 3.187. Pyre good.

39 Incomplete everted-rim jar/beaker with rouletted decoration outside the body. Fabric: GRB2W. Count: 22, Weight: 661g, RE: 80%. Probably late 1st to 2nd century AD. Bainesse Cemetery, Field 163C, Grave

269, Context 12295, RF15246, Figure 3.189. Cremation urn.

40 Base and lower body of a jar. Fabric: GRA6. Count: 11, Weight: 353g, RE: 0%. Bainesse Cemetery, Field 163C, Grave 271, Context 13071, RF11377, Figure 3.192. Cremation urn.

41 Base and lower body of a jar. Fabric: GRA13. Count: 8, Weight: 49g, RE: 0%. 2nd or 3rd century AD. Recovered from inside Cat. no. 40. Bainesse Cemetery, Field 163C, Grave 271, Context 13071, RF15241, Figure 3.192. Grave good or an offering during the burial rite.

42 Base and body of jar with wiping and rilling inside. Fabric: BB1. Count: 18, Weight: 112g, RE: 0%. 3rd century. Bainesse Cemetery, Field 163C, Grave 273, Context 12351 and 12352, RF15242, Figure 3.196. Cremation urn.

CATARACTONIUM

43 Incomplete jar. Scorched outside lower body. Fabric: BB1. Count: 7, Weight: 233.5g, RE: 0%. c.AD120+. *Cataractonium*, Brompton West, Field 177/178, Grave 20400, Context 20405, RF7548, Figure 4.10. Cremation urn.

44 Lid sherd with blunt ended rim. Fabric: GRB6. Count: 1, Weight, 10.3g. c.AD70–200. *Cataractonium*, Brompton West, Field 177/178, Grave 20400, Context 20405, RF15243, Figure 4.10. Urn lid associated with Cat. no. 43.

45 Incomplete jar including a rim with everted neck and everted rim tip. Fabric: BB1. Count: 7, Weight: 31.5g, RE: 1%. cf. Gillam (1976) nos 3–4. Mid- to late 2nd century AD. *Cataractonium*, Brough Park, Field 172, Grave 6729, Context 6730, RF15244, Figure 4.15. Pyre good.

46 Incomplete jar with wavy line neck burnish. Fabric: BB1. Count: 94, Weight 398.8g, RE: 11%. Mid- to late 2nd century AD. *Cataractonium*, Brough Park, Field 172, Grave 6783, Context 6787, RF11404, Figure 4.18. Pyre good/Cremation Urn.

47 Incomplete medium-mouthed jar with everted rim. Fabric: BB1. Count: 146, Weight: 434.7g, RE: 31%, BE: 74%. Gillam (1976) nos 3–4. Mid- to late 2nd century AD+? *Cataractonium*, Brough Park, Field 172, Grave 6785, Context 6795, RF11409, Figure 4.19. Pyre good/Cremation urn.

48 Incomplete burnished jar. One body sherd retains part of a perforation, c.4mm in diameter. Fabric: BB1. Count: 96, Weight: 331.8g, RE: 67%, BE: 100%. Gillam (1976) no 21. Mid- to late 2nd century AD. *Cataractonium*, Brough Park, Field 172, Grave 6782 (possible *bustum* burial), Contexts 6780, 6781, 6782 and 6796, RF11405, Figure 4.21. Pyre good.

49 Incomplete jar with obtuse lattice. Fabric BB1. Count: 9, Weight: 29.2g, RE: 0%. c.AD220/225+. *Cataractonium*, Brough Park, Field 172, Grave 6790 (*bustum* burial), Context 25003, RF15245. Not illustrated due to fragmentation. Pyre good.

50 Base and body of a jar with obtuse lattice burnish and no shoulder groove. Fabric: BB1. Count: 1, Weight: 401g, RE: 0%. c.AD220/225–240. *Cataractonium*, Fort Bridge, Field 176FB, Grave 18207, Context 18256, RF14594, Figure 4.28. Cremation urn.

SCURRAGH HOUSE

51 Incomplete Crambeck pentice moulded beaker. Fabric: CRA RE. Count: 13, Weight: 65g, RE: 8%. Corder (1937) type 12. Late 3rd to 4th century AD. Scurragh House, Field 211, Grave 7671, Context 7672, RF15247, Figure 5.30. Uncertain function.

52 Incomplete jar with oblique burnished line. Fabric: GRB13. Count: 6, Weight: 54.5g, RE: 0%. 2nd or 3rd century AD. Scurragh House, Field 211, Grave 7683, Context 7684, RF15248, Figure 5.33. Uncertain function.

53 Incomplete small everted-rim jar. Fabric: GRB1. Count: 6, Weight: 23g, RE: 15%. 2nd century AD?. Scurragh House, Field 210, Grave 7830, Context 7831, RF15249, Figure 5.22. Uncertain function.

CHAPTER 8
GRAVE GOODS AND FURNITURE

Alexandra Croom, Elizabeth M. Foulds, and Richard Brickstock,
with contributions from Chrystal M. L. Antink, H. E. M. Cool, John Cruse, Frederick W. F. Foulds,
Margarita Gleba, David Griffiths, and David Starley

INTRODUCTION

Elizabeth M. Foulds

Artefacts recovered from burial contexts included intentionally deposited grave goods, pyre goods, and evidence for coffin structures. Grave and pyre goods covered a range of object types often found in burial contexts, including objects of dress and personal adornment, footwear, coins, and other equipment. This chapter primarily covers the non-ceramic vessel artefacts that were likely to be intentional grave and pyre goods. It presents these by period, beginning with the only prehistoric grave good from the scheme. This is followed by the Roman finds, which make up the majority of the chapter. Coins are discussed first, followed by artefacts from inhumations according to object category. A separate sub-section then follows on the objects found in Roman cremation burials, followed by a general discussion on goods in Roman burials. Finally, the chapter considers the small number of objects found in Late Roman/Anglo-Saxon burials, which all yielded radiocarbon dates that suggested that they post-dated the official end of Roman rule in Britain. A summary table is provided in Appendix H. Throughout the chapter, where skeletal material was present in graves, the radiocarbon dates from these remains were in good agreement with the typological dates for the majority of the artefacts recovered. Where there is a disagreement between the radiocarbon and typological dates, this has been explicitly discussed in the text.

There were a number of finds related to burial contexts that were likely unintentional inclusions or had been incorporated due to the disturbance of earlier activity. These finds do not feature extensively in this chapter, but summaries are provided in the section on 'Other artefacts from grave backfills' and the associated data are available in Appendix I, which is available to download via the ADS.

Burial contexts that were recognised on site were 100% sampled, which aided in the collection of artefacts that were difficult to see by eye during excavation. This was especially beneficial in the case of small objects, such as beads, and heavily fragmented objects. All finds were cleaned and packaged according to recognised guidelines (English Heritage 1995; Watkinson and Neal 2001; CIfA 2014d). All iron artefacts were x-rayed to aid in the identification of finds in-line with the project's post-excavation strategy (Russ *et al.* 2017). X-raying and conservation of artefacts was carried out by Yorkshire Archaeological Trust (YAT) and Karen Barker (independent conservator).

The following sections on grave and pyre goods were written by several authors. Alexandra Croom was responsible for the analysis of the majority of the small finds; Dr Elizabeth Foulds wrote the sections on the prehistoric finds, a fragment of leather, and Roman beads; and Dr Richard Brickstock analysed the Roman coins. Dr Margarita Gleba contributed as a specialist to the discussion of the organic string. The sections on unintentional inclusions in graves were authored by Alexandra Croom, Dr Elizabeth Foulds, Dr Hilary Cool, John Cruse, Dr Frederick Foulds, Chrystal Antink, Dr David Griffiths, and Dr David Starley.

FINDS CATALOGUE

Finds identified as grave or pyre goods in this chapter were allocated a catalogue number (Cat. no.), which is used to refer to individual records in the catalogues. Figure numbers are provided to refer the reader to illustrations, which appear in Chapters 2–5 alongside the individual grave catalogues.

Catalogue entries are given in the following format:

[**Catalogue number**] [Description]. [Dimensions]. [Date range or period]. Field [number], Grave [number], Context [number], RF [Recorded Find number]. Figure [number].

For example:

54 Nearly complete, but fragmented, bone pin. Slightly flared flat head and tapered shaft. Missing tip. L: 115mm, widest part of head: 9.6mm, smallest diameter at tip end: 2mm. Early Bronze Age. Field 259, Grave 6887, Context 6888AA, RF15101. Figure 2.4.

Abbreviations used throughout the chapter include: 'L' = length, 'W' = width, 'Th' = thickness, 'B' = breadth, 'MTh' = material thickness, 'Diam' = diameter, 'H' = height, and 'PAS' = Portable Antiquities Scheme.

Finds recovered through environmental sampling have

a two-letter code appended to the end of the context number, which is a reference to the sample identification. For example, Context 6888AA in catalogue entry 54.

The complete data, including finds from grave backfill, is available in Appendix I.

PREHISTORIC BURIALS

Elizabeth M. Foulds

Evidence for prehistoric burials was extremely limited across the scheme. This is also reflected in the number of grave goods associated with prehistoric burials. Only a single artefact, a Bronze Age bone pin, can be attributed to this period.

BRONZE AGE BONE PIN

Fragments of a bone pin (Cat. no. 54) were found amongst the unurned cremated human remains from pit **6887**. Although the pin was heavily fragmented, much of it was recovered. The flat head was slightly flared, and the shaft tapered, although the tip was not recovered. The cremation burial can be dated to the Early Bronze Age (1921–1741 cal BC at 95.4%, confidence; SUERC-75032) and contained the remains of an adult and juvenile (see Chapter 2). Pins are known from other Bronze Age cremation burials, along with toggles. These are both described as 'shroud fasteners' and are particularly noted as being associated with child burials (Sheridan 2007). There are two dated Bronze Age pins from cremation burials in Scotland with similar dates to that from the A1 example (*ibid*.). An urned cremation burial was also found near Bradford that contained three collared ceramic urns, a bone pin associated with fragments of copper alloy, and a stone battle axe or mace head (PAS ID: SWYOR-C4F166).

CATALOGUE

54 A burnt, nearly complete, but fragmented, bone pin. Slightly flared flat head and tapered shaft. Missing tip. L: 115mm, widest part of head: 9.6mm, smallest diameter at tip end: 2mm. Early Bronze Age. Field 259, Grave 6887, Context 6888AA, RF15101. Figure 2.4.

ROMAN BURIALS

INTRODUCTION

Elizabeth M. Foulds

Across the A1 scheme, 296 burials dated to the Roman period, or were suspected to be of this date. Of the 266 Roman inhumations, only 82 (about 30%) contained at least a single grave good (including the ceramic vessels covered in Chapter 7 and environmental evidence covered in Chapter 9). In contrast, a higher proportion of cremation burials contained possible pyre goods (73%), but this could be due to the inability to distinguish between objects used or left as part of the cremation rites, and those that were unintentionally deposited with the cremated remains (and therefore not part of any rite). There was a much smaller number (27%) where grave goods were recognised as accompanying cremation deposits.

Non-vessel grave goods found throughout the scheme included a small range of different object types. Shoes were the most numerous type of object, with at least one pair occurring in up to 74 of the burials (25%). Other types of objects were considerably less frequent, but included objects related to dress and personal adornment, as well as a small number of more functional equipment. This last category is perhaps the most varied, but also the most interesting, as it included two possible whetstones that may have been intentional grave goods, two fish-hooks, and a pipe-clay figurine.

Grave good diversity and quantity of objects were generally conservative with a small number of instances where graves were comparatively lavishly furnished or included rare items, such as necklaces formed of jet and glass beads (Graves **235** and **10827**), multiple bracelets, sometimes including anklets (Graves **235**, **119**, **149**), a stack of nine coins placed in the mouth of the deceased (Grave **20417**), and a collection of circular objects including a penannular brooch, finger-rings and loops, and a horse harness distributor (Grave **20476**). However, in stark contrast, grave goods were not found in 72% of Roman inhumation graves at Bainesse Cemetery. In comparison, grave goods were absent from only 40% of graves at the late Roman cemetery at Lankhills, Winchester (Booth *et al*. 2010). This is similar to the proportions of Roman graves in the other areas of the A1 scheme without grave goods: 54% of graves at *Cataractonium*, 43% at Scurragh House, and in the single Roman inhumation at Scotch Corner.

Where items had been placed in graves, it has become clear that there are patterns in the types of objects and the individual's age and sex, and these patterns can be seen in Roman period burials throughout Britain (e.g. Cool 2011; Gowland 2016b). Nearly half (42%) of the non-adult graves across the scheme included grave goods, and two-thirds of those graves included more than one object. Non-adult grave goods were made up of one, two, or three ceramic vessels and objects of personal adornment. Footwear was present in two-thirds of the non-adult inhumation graves. In most cases it was not possible to determine whether the shoes had been worn, but there were several instances where they were clearly worn and not worn, such as Grave **219** (3–4 years old), which likely included a second pair of shoes, along with two beaker vessels. Two of the most spectacular non-

adult graves included Grave **235** (3–5 years old), with the two copper-alloy bracelets and necklace made from jet and glass beads, and Grave **20476** (13–17 years old), with its collection of circular objects. Richly furnished graves, such as these, have been interpreted as possibly signalling the individuals 'potential' as an adult (Moore 2016, 327) or an expression of loss (Gowland 2016b, 315).

Across the A1 scheme, about a quarter of all Roman inhumations were contained within a funerary structure. In almost all cases, this was a nailed coffin, but there were also a small number of stone lined graves. Differences in treatment of individuals is apparent based on age and gender. Over half of the non-adults at Bainesse Cemetery were buried in a structure (all were nailed coffins), whereas only 9.1% of female adults and 23% of male adult individuals were. This pattern is not reflected in the burials found at *Cataractonium*, where 60% of female individuals were buried in structures, whereas only 12.5% of male individuals were. This may reflect different burial practices not only between the cemetery and the town, but age and gender may have also had a role in determining how a person was buried, including the use of non-nailed coffins.

Related to the choice of objects to be included within burials is the choice of what to exclude. Issues of organic object preservation aside (as this affects most Roman cemeteries in Britain), there are some object types that are not represented in inhumations across the A1 scheme. Objects that we might expect to see in grave good assemblages include glass vessels, cosmetic/toilet equipment (e.g. combs, tweezers, etc.), textile equipment, earrings, hair-pins, box fittings, and knives or other blades. There were also very few brooches, the types of bracelets were very limited, and there were hardly any belt buckles. Only one of the graves contained artefactual evidence that could support the possibility that the individual was a soldier in the Roman army (cremation Grave **272**). This is despite the fact that there is extensive evidence for military activity at both Bainesse and *Cataractonium*—a walled town next to a fort along a major north–south routeway. Evidence for nearly all of these objects and object categories has been found in non-grave contexts, so perhaps this reflects a deliberate choice rather than issues of access.

COINS

Richard Brickstock, with a contribution from Alexandra Croom

Introduction

Over 500 coins were recovered during the A1 scheme, but only 16 were found in burial contexts. There were eight instances (three at Bainesse Cemetery and five at *Cataractonium*) where coins were found in connection with inhumations or cremation burials, comprising seven single coins plus a hoard of nine. A further coin was found at Bainesse in a context originally thought to be a burial, although a grave cut could not be identified; this coin is therefore likely to originate from a disturbed burial somewhere in the vicinity.

Together with the other grave goods and the radiocarbon dates from the human remains, the coins provide valuable insight into the dating of individual burials. In addition, discussion of the types of coins chosen and their positioning within the grave context may help to shed light on burial customs pertaining to various times within the local community.

Coins are discussed by the area they were found in. A discussion of the coins from Bainesse Cemetery appears first, followed by coins from Brough Park and Brompton West.

Reference abbreviations include:

'RIC' = *The Roman Imperial Coinage*, volumes 1–10 (Mattingly and Sydenham 1923; 1926; 1930; 1936; 1938; Webb 1927; 1933; Mattingly *et al*. 1949; Pearce 1951; Bruun 1966; Sutherland 1967; Kent 1981; 1994).

Conventions include:

Officina letter: appears following the mint.

Die axis: recorded according to the hours of the clock.

Condition of the obverse and reverse (e.g. W/VW): 'UW' = unworn, 'SW' = slightly worn, 'W' = worn, 'VW' = very worn, 'EW' = extremely worn, 'C' = corroded.

Bainesse Cemetery

Four coins were found with human remains, all of which were low-denomination and pierced. Inhumation Grave **148** and cremation Grave **269** included single *asses*, and a *dupondius* was found in inhumation Grave **221**. An additional *as* (Cat. no. 58 from context **12508**) may have derived from a disturbed burial of an unknown type. All four coins were Antonine, though the precise attribution of the two coins from the inhumation graves was uncertain. The coins were poorly preserved, especially the two from the inhumations. However, useful information could still be gleaned despite this.

Dating

The four Antonine coins might suggest four graves of much the same period (c.AD138–192). However, the coins from the inhumations appeared extremely worn; the coin in Grave **148** (Cat. no. 55), in particular, was worn almost completely smooth (Cat. nos 55 and 56 were poorly preserved, making an accurate assessment problematic, but the degree of wear is undoubtedly considerable). In

both cases, this suggested a very substantial period of usage prior to deposition. Thus, deposition may have taken place many decades later than the date of minting, possibly well into the 3rd century AD. However, a later 2nd-century date for either or both remains possible, which would be more in line with the suggested date of the beads recovered from Grave **221**.

The other two coins also appeared to exhibit substantial circulation wear (though markedly less than the extremely worn examples), though again it is hard to be precise due to the state of preservation. The coin in Grave **269** was assessed as 'worn' or 'very worn', which might suggest a circulation period of as much as 40 years prior to deposition, pushing the date into the late 2nd century, perhaps c.AD180–200, although preservation factors could mask the extent of the wear and it could be less worn than estimated. However, this date accords well with the radiocarbon date (see Table 3.244) and a rather early date for the cremation urn presents no intrinsic archaeological problem.

The remaining pierced coin (Cat. no. 58) has been assessed with confidence as 'worn', in this instance equating to approximately a couple of decades in circulation. Since there was no other dating evidence for this context, a deposition date of c.AD160–80 is suggested. There remains the possibility that the extent of the circulation wear was over-estimated, but not under-estimated.

The contexts of these four Antonine coins appeared to span a considerably longer period than the reign of Antoninus Pius, possibly something approaching a century, from the mid-2nd century onwards. Even so, these contexts represent only a short period in the life of the nearby settlement at Bainesse, where occupation probably began in the late 1st century and continued at least until the AD370s; though perhaps no later, as coin evidence for the Theodosian period is currently absent, in contrast to *Cataractonium* itself (Brickstock 2007).

Choice of coin

It is not immediately apparent that there was any particular rationale involved in the choice of coin types for inclusion in the burials, but the coin denomination and coin imagery may have been factors in selection.

Denomination

The smaller base metal fractions of the Augustan system of coinage, the *semis* and the *quadrans* (respectively tariffed at 1/32nd and 1/64th of a *denarius*), though still produced in small numbers in the time of Antoninus Pius, had been rendered essentially obsolete due to inflation by the mid-1st century, as witnessed by their rarity on Romano-British sites. Therefore, the denominations chosen for inclusion in the Bainesse graves (three *asses* and one *dupondius*, respectively worth 1/8th and 1/16th of a *denarius*) represent the lowest denominations in common circulation in the 2nd century AD, in line with the practice outlined above. By the early 3rd century AD, both of these denominations had also largely been replaced in day-to-day transactions, likewise through the operation of inflation, by the *sestertius* (1/4 of a *denarius*) and the *denarius*, though they were still legal tender and would still have been fairly readily available. Thus, the coins would appear to have been selected at least in part on the basis of denomination (i.e. because they were not worth much), but there is probably little additional significance.

Type

Selection of the obverse (head side) or reverse (tails) coin imagery for display might have been a factor in the selection of the coin. All four coins appeared to be issues of Antoninus Pius, which may be of some significance, though this could represent no more than chance selection of some of the commonest issues from the available circulation pool. Unfortunately, the reverse type is not fully legible in any of the examples. Assessment of the location of the piercing also does not indicate the preferred side of the coin, as the piercing was located at either 90 degrees to the left or right of the figure and avoids the head and main elements of the reverse type. Furthermore, assessment of the direction of the type when suspended as a pendant is equally unrevealing (Table 8.1). Six Roman coins from an Anglian burial at a cemetery in Scorton were also pierced (Brickstock 2002), but the location of the perforation was not consistent with the holes on the Bainesse examples.

Use as an amulet

Alexandra Croom

The coin in Grave **221** was found near some beads and may have come from a bracelet, or possibly a necklace. That in Grave **148** was found with a collection of other circular objects that may also have been used as amulets. It is possible that in both cases it was the circular shape that was important, rather than the images on the coin.

Table 8.1: orientation of Bainesse coins if suspended as a pendant from perforation.

Orientation	Obverse	Reverse
Type upright	-	-
Type sideways, facing up	2	2
Type sideways, facing down	2	1
Type sideways	-	-
Type inverted	-	-
Type illegible	-	1

A pierced coin (Cat. no. 57; see discussion below) was included in the cremation burial in Grave **269** and was found propped up against the cremation urn. It seemed to have been attached to the vessel as a gift from a mourner, rather than being a personal possession of the deceased.

Cataractonium burials

Thirteen coins were found in burials at *Cataractonium*. The grave finds fall into two obvious groups, namely three later 2nd-century coins (Cat. nos 59–61) from cremation burials at Brough Park (Field 172), and two much later 4th-century finds (Cat. nos 62–70 and 71) from inhumation graves at Brompton West (Field 178).

Coins from cremation burials

The three coins from cremation burials were similar to those from Bainesse Cemetery. Two were Antonine (an *as* and a *sestertius*) and the third was an *as* of Vespasian. However, unlike the Bainesse examples, none of these were pierced. The latter was of a type still in common circulation in the 2nd century (see above for a discussion on the choice of coin denomination, which also applies here).

The *as* of Antoninus Pius (Cat. no. 59) from cremation Grave **6723** was relatively well-preserved; the types were legible, and a reasonable estimate of circulation wear could be made. It was worn, but not excessively, perhaps consistent with a period of two or three decades in use. Working on that basis, a date of deposition in the third quarter of the 2nd century, perhaps c.AD160–75, might be suggested. There were no other grave goods to provide a comparative date, but this suggestion sits well with the radiocarbon date obtained for the burial (cal AD135–345 at 95.4% confidence; 1777±34 BP, SUERC-7533/GU45142).

The *as* of Vespasian (Cat. no. 61) from cremation Grave **6790** would have been minted in AD71 and was worn to a greater degree (VW/EW; see Brickstock 2004). This suggested a prolonged period of usage, perhaps amounting to a century. This would suggest a very similar date of deposition for this coin (i.e. sometime in the third quarter of the 2nd century), although either an earlier or a later date remain possible. The additional grave goods were not closely datable, but a radiocarbon date almost identical to that for Grave **6723** lends weight to this suggestion (cal AD126–264 (82.0%), cal AD275–330 (13.4%); 1808±34 BP, SUERC-75333/GU45139)

A *sestertius* (Cat. no. 60) of the Younger Faustina, wife of Marcus Aurelius, was recovered from cremation Grave **6782** and would have been struck in the reign of Antoninus Pius. It had been abraded (perhaps in antiquity) down to approximately the size of a *dupondius* (c.28mm). It was less well preserved than the other coins, rendering the assessment of wear rather less certain (VW/VW, but this could be something of an overestimate). Lacking any corroborative evidence, a date of deposition is difficult to determine, but sometime in the second half of the 2nd century (possibly c.AD180–200; roughly in line with the coin from Grave **269** at Bainesse Cemetery) seems most likely. A slightly later date is also possible, particularly given the choice of a larger denomination, i.e. a *sestertius* (albeit abraded), rather than a *dupondius* or *as*.

Coins from inhumations

A single coin (Cat. no. 71) was recovered from the fill of Grave **20476**, together with a collection of other copper-alloy objects (see page 551). The whole assemblage appeared to have been placed adjacent to the skull of the deceased, perhaps in a box or bag. The coin was an issue of Constantine II as Caesar, of a common type from the AD330s. Therefore, the deposition of the assemblage must be dated to after AD335, but the relatively worn condition of the coin suggests that it might not have been deposited until c.AD350.

A group of nine coins (Cat. nos 62–70) was found deposited in the mouth of the male individual (aged 36–45) in Grave **20417**. The coins should perhaps be seen as a small 'purse hoard' (i.e. a representative selection of the small change in circulation in Britain in the early AD320s). They ranged in date from a *follis* of Constantine I minted in AD309–313 (listed in RIC as c.AD309–310, but more likely in the light of subsequent studies to fall later in the range AD309–313) to a coin of Crispus, Caesar, dating to AD323–324 (rather than the very similar issue dating to AD321–322, as there is some ambiguity in RIC). Seven were issues of the London mint, which until its closure in AD325 provided a very significant proportion of Roman Britain's base-metal coinage. The remaining two coins were from the mints of *Treveri* (Trier) and *Lugdunum* (Lyon), which produced much of the remaining coinage circulating within Roman Britain during this period. The circulation wear exhibited by the coins was slight, especially on the coins of AD320 or later. This is consistent with a deposition date certainly after AD321, almost certainly after AD323, and in all probability not much later than AD325.

The sheer number of coins placed in the mouth of a corpse may come as something of a surprise, but the value of the coins taken together was not great. It seems likely that their perceived function (i.e. for 'paying the ferryman'), was unchanged. The positioning of the coins aside, the incidence of small coin hoards within grave contexts is not particularly remarkable. Finds from the Roman cemetery at Scorton (Brickstock 2002), just north of the Swale, included a pair of small Constantinian

hoards from two separate contexts; one of 24 coins, with the latest coins being of AD340–341 date; and the other consisting of 44 coins (with other low-value grave goods) where the latest coins were copies of issues dating to AD353–358. In both instances, dark stains in the soil suggested that the coins had been buried in an organic container, either a bag or a small box, which had been placed adjacent to the body.

Discussion

The more noteworthy aspects of this assemblage include the presence of a number of pierced coins of the Antonine period in both the inhumations and cremation burials recorded in the Bainesse Cemetery; and, from the *Cataractonium* burials (Grave **20417**), a small Constantinian hoard apparently placed in the mouth of the deceased.

There is nothing unusual in the presence of one (or occasionally two) coins within a burial context. The practice of placing a (normally low-denomination) coin in the mouth of the dead to 'pay the ferryman' goes back at least to the 5th century BC. In Greek mythology, Charon ferried the newly-dead across the Rivers Styx and Acheron to the land of the dead, receiving a coin (normally an obol) in payment. The practice was adopted by the Romans and continued even into the post-Roman period (seemingly regardless of the advent of the 'Christian' era), although the placement of coins over the closed eyes of the dead appears to be a relatively-modern, perhaps Victorian, custom that is not securely attested to in antiquity.

The placement of a coin in the mouth of (or close to) the corpse appears to have been both common and widespread in Romano-British cemeteries, although it is never anything approaching universal. Examples are recorded, for instance, from Poundbury, Dorchester, Dorset, Lankhills, Winchester, Ilchester, Somerset (for all of which see Woodward 1992), while the closest geographical parallel to the present assemblage is the Trentholme Drive cemetery, York, where five individual inhumations contained skeletons with single coins in their mouths (Wade and Kent 1968). The discovery of a hoard of as many as nine coins in the mouth of a single skeleton is, however, highly unusual, if not unique, although the intended purpose was presumably the same.

Pierced coins are occasional finds in many Romano-British assemblages, although often without any obvious funerary associations. However, the Trentholme Drive cemetery again provides a direct parallel from a burial context and that site also yielded several coins from cremation burials, including one adjacent to a flagon and one actually within a jar and at least five coins marked by intense heat (Wade and Kent 1968). In addition, pierced Roman coins (for wearing as a necklace or amulet) are on occasion found within Anglo-Saxon or Anglian graves, with nearby Scorton providing an example of this practice (Brickstock 2002).

Catalogue

55 Probably Antoninus Pius, AD138–61?; Denomination: *As*. Wear: EW/EW (worn smooth). Die axis: 12. Obverse: bust right, pierced at 9 o'clock behind the head; Reverse: seated figure left, pierced at 3 o'clock behind the main type. RIC as Pius 727. Mint: Rome I. Field 163C, Grave 148, Context 12798, RF11144. Figure 3.88.

56 Probably Antoninus Pius, AD138–61?; Denomination: *Dupondius*. Wear: EW/EW (worn smooth). Die axis: 6? Obverse: bearded radiate bust right, pierced at 3 o'clock (i.e. behind the main type); Reverse: Providentia, or similar, standing left, pierced probably at 3 o'clock (i.e. behind the main type). RIC as 970. Mint: Rome. Field 163C, Grave 221, Context 13113, RF11659. Figure 3.158.

57 Antoninus Pius, AD138–61; Denomination: *As*. Wear: ?W–VW/C. Die axis: 6. Obverse: bearded bust of Pius, right, pierced at 9 o'clock, behind the head; Reverse: Felicitas or similar standing left; pierced at 9 o'clock, in front of the main type. RIC as 680. Mint: Rome. Field 163C, Grave 269, Context 12293, RF582. Figure 3.189.

58 Antoninus Pius, AD138–61?; Denomination: *As*. Wear: ?W/C. Die axis: ? Obverse: bearded bust of Pius, right, pierced at 3 o'clock, below the nose; Reverse: illegible (and positioning of piercing therefore unknown). Mint: Rome. Field 163C, Context 12508, RF692. Not illustrated.

59 Antoninus Pius, AD140–43; Denomination: *As*. Wear: W/W. Die axis: 6. Obverse: AVG PIVS PP TRP COS II[I] bearded head of Pius right; Reverse: ANNO[NA AVG] SC. RIC 675. Mint: Rome. Field 172, Grave 6723, Context 6725, RF6516. Figure 4.17.

60 Faustina II (from the reign of Antonius Pius), AD145–61; Denomination: *Sestertius* (much abraded). Wear: ?VW/VW (or less?). Die axis: 7. Obverse: [FAVSTINA AVG ANTO]?NINI A[VG PII F] or similar; Reverse: Venus or similar standing left. RIC as Pius 1347. Mint: Rome. Field 172, Grave 6782, Context 6780, RF11412. Figure 4.21.

61 Vespasian, AD71. Denomination: *As*. Wear: VW/EW. Die axis: 6? Obverse: IMP CAESAR VESPASIANVS AVG…; Reverse: probably Eagle on globe SC. RIC as 497; ed.2, as V1170. Mint: Lyons. Field 172, Grave 6790, Context 25005, RF11420. Figure 4.25.

62 Constantine I, AD319. Wear: UW–SW/SW. Die axis: 5. Obverse: IMP CONSTAN-TINVS MAX AVG; Reverse: [VICTORIAE LAETAE] PRINC [PERP VOT/PR] "hour-glass"//PLN. 7LN154. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

63 Constantine I, AD321. Wear: SW/SW. Die axis: 6. Obverse: CONSTAN-TINVS AVG; Reverse: BEATA TRA-NQVILLITAS VOT/IS/XX P/A//PLON. 7LN203. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

64 Constantine I, AD320–321. Wear: UW–SW/UW–SW. Die axis: 6. Obverse: CONSTAN-TINVS AVG; Reverse: VIRTVS - EXERCIT VOT/XX //PLN. 7LN191. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

65 Crispus, Caesar, AD320. Wear: UW–SW/UW–SW. Die axis: 6. Obverse: FL IVL CRIS-PVS NOB CAES; Reverse: VICTORIAE LAETAE PRINC PERP VOT/PR wreath//[PLN]. 7LN174. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

66 Constantine I, AD319. Wear: SW/SW. Die axis: 6. Obverse: IMP CONSTAN-TINVS MAX AVG; Reverse: VICTORIAE LAETAE PRINC PERP VOT/PR [*]// STR. 7TR213. Mint: Trier S. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

67 Crispus, Caesar, AD323–324 (or 321–322). Wear: UW–SW/UW–SW. Die axis: 6. Obverse: CRISPV-S NOBIL C; Reverse: BEAT TRA-NQLITAS VOT/IS/XX // PLON. 7LN275. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

68 Constantine I, AD309–313. *Follis*. Wear: SW/SW(–W?). Die axis: 6. Obverse: IMP CONSTANTINVS P[FAVG]; Reverse: SOLI INVI-C-TO COMITI F/T//PLG. 6LG309. Mint: Lyons P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

69 Licinius I, AD316. *Follis*. Wear: SW/SW(–W?). Die axis: 6. Obverse: [IMP] LICINIVS PFAV[G]; Reverse: SOLI [INVI]CTO COMITI S/P//MSL. 7LN79. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

70 Constantine II, Caesar, AD321–322. Wear: SW/SW. Die axis: 6. Obverse: CONSTANTI-NVS IVN NC; Reverse: BEATA TRA-NQVILLITAS VOT/IS/XX // PLON. 7LN236. Mint: London P. Field 178, Grave 20417, Context 20415, RF12797. Figure 4.59.

71 Constantine II, Caesar, AD335–337. Wear: W/W. Die Axis: 6. Obverse: [CONSTANTI-NV]S IVN [NC]; Reverse: [GLOR-IA EXERC-]ITVS 1 standard. 7TR591. Mint: Trier P. Field 178, Grave 20476, Context 20478, RF7602. Figure 4.50.

DRESS AND PERSONAL ADORNMENT

Alexandra Croom

Introduction

Objects of personal adornment and dress from inhumations were very limited in number and in a range of different types. They consisted of a single penannular brooch, sixteen bracelets and anklets, up to nineteen finger-rings and other loops, several different types of amulets, and two beaded necklaces, plus additional small groups of beads. These grave goods came from 20 graves from across the A1 scheme. In most cases, the skeletal evidence did not survive, or age and sex could not be determined from the extant remains. Where they did, four of the graves could be determined as non-adult (Graves **82**, **194**, **235** and **20476**) and eight were adults. Of the adults, two were male or possibly male (Graves **198** and **20955**), and three were female (Graves **16**, **119** and **20198**).

Brooch

Only a single brooch was recovered from all the inhumations encountered throughout the scheme (Cat. no. 72). It was recovered as part of a collection of circular objects placed within Grave **20476** at Brompton West. It is a penannular type (type D; after Booth 2014), with folded back terminals that were decorated with V-shaped notches. The humped pin was curled around the loop and had two grooves at its widest point. This type of brooch was most common in south-west Britain, although there was also a concentration around north Lincolnshire (Booth 2014, 147 and fig. 4.21). It was more common in towns than on military sites and was a long-lived type in use throughout the Roman period. The ends of the brooch were pushed together so that the rings could not be removed, which meant that the gap was also too small for the brooch pin. It was found with two loops threaded onto it (see 'Finger-rings and loops', below).

Bracelets, armlets and anklets

Fourteen bracelets, armlets and anklets were found in burials across the A1 scheme. All of the copper-alloy examples were worn or came from areas of the body that indicated they were likely to have been worn. However, it is interesting that the two iron bracelet examples appeared to have been placed within the graves and not worn by the deceased individual. Whether this treatment of iron bracelets is purely coincidence, as they often do not survive, or related to some inherent property of the material, is unclear.

Bracelets

The female in Grave **119** wore an oval penannular copper-alloy bracelet with tapering ends, decorated with

approximately six incised grooves, on her right forearm (Cat. no. 75). Unusually, the opening of this bracelet is on the narrow side rather than the wide side; the small gap between the terminals suggests the bracelet was bent further round the wrist after being put on, in order to stop it slipping off. This type of bracelet was used throughout the Roman period (Cool 1983, group VI, 140).

Two other penannular bracelets were found in the region of the arms in Grave **149**, but only one survived in good condition. This was an oval bracelet (Cat. no. 81), heavier than Cat. no. 75, with blunt terminals decorated with two groups of three mouldings. These were worn on both the interior and exterior faces and may have represented some debased form of snake's head. The bracelet on the other arm had a plain, D-shaped cross-section (Cat. no. 80). Penannular bracelets in various designs were used throughout the Roman period.

The young juvenile in Grave **235** wore two copper-alloy bracelets of single strand wire, with wrapped wire terminals that form hook and eye fasteners. The one worn on the right arm was distinctly oval in shape (Cat. no. 84), while the one on the left was less so (Cat. no. 85). This type of fastening was in use by the 2nd century and continued to the 4th century.

Iron bracelets rarely survive as well as copper-alloy examples, but they were generally annular and circular, without any form of adjustable fastening, similar to 4th-century copper-alloy light bangles. Indeed, some have the narrow rectangular cross-section and even the decoration typical of these bangles (e.g. Booth *et al*. 2010, 109, nos 685.2 and 685.3). Other bracelets appear to be more robust, with a sub-rectangular or circular cross-section (Crummy 1983, fig. 48, no. 1737). In graves, iron bracelets have been found associated with copper-alloy, jet/shale, bone and silver examples. Some may have been kept polished to produce a silver appearance, but it is likely most were given a black finish to stop rust developing. Bracelets with such a finish, especially the thicker examples, would have appeared very similar to jet bracelets.

Three examples of iron bracelets are now known from Bainesse: one each from Graves **194** (Cat. no. 82) and **198** (Cat. no. 83), and one from previous excavations ('centre of grave', late 2nd to late 3rd century; see Mould 2002b, fig. 290, no. 76 and also no. 77 from a non-grave context). Two were small (internal diameters of 45mm and 48mm), while that from Grave **198** was larger (internal diameter: 58mm). All fit within the size range of iron bracelets found in graves, which range from 38mm for one from a grave of a seven-year-old to 62mm for one in the grave of 19–25-year-old female (from London and Colchester respectively; see Crummy *et al*. 1993, table 2.52, no. 1735; Barber and Bowsher 2000, B291.2–3).

The bracelets in Graves **194** and **198** may have been placed in the grave on top of the shrouded corpse, perhaps as gifts from a mourner rather than personal belongings of the deceased, although it should be noted they were of suitable size for the people interred. That in Grave **198** came from the region of the left shoulder (probable male, 26–35) and that in Grave **194** was found to the right of the left leg, near the knee, of an unsexed juvenile.

A smaller iron loop (Cat. no. 90) had been placed within the bracelet in Grave **194** and a single used hobnail was also found within the bracelet. Although a small quantity of hobnails was found in the region of the feet of this burial, this hobnail is some distance away and may have been deliberately positioned. Bracelets (in this case of copper alloy) that were placed on the body have also been found in two 4th-century graves nearby at Hollow Banks Farm. One was found on top of an arm folded across the chest of a woman and one over the skull of a man (Eckardt *et al*. 2015, figs 8–9).

Outside Bainesse Cemetery, an iron bracelet was worn on the right arm of an adult female in Grave **20198** (Cat. no. 86) at Brompton West. It was fragmentary, but may have been oval in shape, rather than the round shape of most iron bracelets, and as such may have been penannular. One fragment seemed to taper, as if to a terminal, but this could be the result of damage.

Armlet

An oval copper-alloy wire armlet (Cat. no. 79) was found worn on the upper right arm of the skeleton in Grave **130** (unsexed adult). This has a sliding knot fastening with additional spiral decoration. The armlet is distorted into a vaguely triangular shape. A gold example of this design is known from a 1st-century context in Colchester, while a copper-alloy example from a well at Mucking is likely to be 2nd-century in date (Appleby 2016, fig. 3.4, no. 343; Crummy 2016, fig. 10). It was positioned on the upper part of the arm bone and suggests that the person was wearing a sleeveless tunic.

Anklets

Two anklets were worn by the individual in Grave **119** (adult female); that on the right ankle of the body (Cat. no. 76) had a simple sliding knot. The anklet on the left leg was made of similar wire, but apparently had no knot (Cat. no. 77). Instead, the two terminals tapered slightly, and one was slightly bent inwards, so the ends may have been loosely wrapped over each other, as with the anklet (Cat. no. 73) from Grave **16** (adult female). This was worn on the right leg and was made of oval cross-section wire with a very simple sliding knot with one end split to form

a Y-shaped terminal (see Fig. 3.14). Bracelets with this type of sliding knot were in use through-out the Roman period so these anklets cannot be closely dated (Cool 1983, group III, 714).

The anklet (Cat. no. 74) in Grave **35** (unsexed adult) seems to have been worn on the right leg. It was made from a single strand of torc-twisted wire, now very fragmentary, with a few fragments of thin wire probably related to a sliding knot fastening. The largest surviving fragment had an internal diameter of approximately 95mm. Anklets of very similar design and size were found on the right leg of a possible male skeleton at Catterick Bridge (this burial also contained a 3rd century coin; Mould 2002c, fig. 292, no. 6), and on the right leg of a male skeleton at Bainesse (the body also wore bracelets and a necklace; Mould 2002a, fig. 282, no. 8). Another example (Cat. no. 87) was found in Grave **11808** at Scurragh House, which was worn by a young, unsexed adult (although the grave goods suggest female gender) aged between 18 and 25 years. Although incomplete, the fastening is likely to have been a sliding knot.

This type of torc twist is more common in northern England than in the south and may date principally to the 4th century (Cool 2010a, 297). Another example is known from Carlisle (Howard-Davis 2009, fig. 384, no. 10).

Bainesse has now produced five anklets and Catterick two. It is unclear how common anklets were in Roman Britain. Although they tend to be circular rather than oval and have a diameter between 82–95mm, unless they are found worn in a grave the smaller examples could equally be armlets worn on the upper arm. Other than the examples from *Cataractonium* and Bainesse, Philpott (1991, table A30) listed five examples from graves (those said to come from a grave in York were in fact unworn jet bracelets; see Allason-Jones 1996, 22, burial H.103), while more recent examples have been found at Mucking and bead anklet(s) have been found at London (Table 8.2).

The evidence suggests anklets could be worn by both men and women, although the possible male from London was also buried with two mirrors (Barber and Bowsher 2000, 155), which have been associated with women in the Roman period as a symbol of vanity, and one of the males from Bainesse was buried with an elaborate jet bead necklace and two bracelets, again items usually associated with women. While their biological sex may have been male, the gender of anklet-wearing men may have been female.

Grave **119** at Bainesse is unusual in that anklets were worn on both legs. For the anklets to be visible, tunics short enough to leave the ankles visible would have been necessary. While there was a brief fashion for richer women to wear short tunics in the second half of the 3rd century (cf. the expensive tombstone of Aurelia Aureliana from Carlisle; see Coulston and Phillips 1988, no. 493), lower status women wore shorter tunics throughout the Roman period. Cool (2002, 29) dates torc-twisted armlets and anklets to the late 3rd to 4th centuries, and the presence of one in a grave at *Cataractonium* dated to the late 4th or early 5th century shows they continued to be worn to the end of the Roman period (grave 752; Mould 2002c, fig. 292, no. 6).

Table 8.2: anklets from graves (all items copper alloy unless stated otherwise).

Site	Grave No.	Type	Sex	Reference
Bainesse	35	Torc-twisted with sliding knot	-	RF715
Catterick (site 240)	754	Torc-twisted with sliding knot	M?	Thompson 2002, 389 table 117
Bainesse (site 46)	951	Torc-twisted with sliding knot, worn with jet necklace and two jet bracelets	M	Thompson 2002, 389 table 117
Scurragh House	11808	Torc-twisted with ?sliding knot	-	RF10101
Wroxton St Mary	-	Twisted, worn with two bracelets	-	Grew 1981, 344
Bainesse	16	Plain with sliding knot	F	RF11799
Bainesse	119	Two, plain with sliding knot and loose knot	F	RF10313, 10314
Mucking	18	Plain with sliding knot, worn with single bracelet	F	Lucy and Evans 2016, fig. 4.13, no. 18.1
Dorchester	-	Plain with sliding knot	-	St George Gray 1911, 94
Brampton	-	'Simple', worn with finger-ring and jet necklace	F	Knowles 1977, 215
Great Chesterford	-	No details; double burial with bracelets, brooch and glass beads	-	Powell 1963, 87
Chichester	326	No details; worn with two bracelets	F?	Down and Rule 1971, 122
London	197	Glass beads (possibly three anklets)	M?	Barber and Bowsher 2000, B197.5

Finger-rings and loops

The only worn finger-rings came from Grave **20955**, where a man aged 36–45 wore one on each hand. On the little finger of his right hand he wore a thin, copper-alloy plain band (Cat. no. 104), while on the ring finger of his left hand he wore a slightly thinner copper-alloy ring with transverse grooves c.1mm apart on the sides (Cat. no. 105). This was an old ring when buried; the grooves were very faint on the interior but have fully worn away on the outer surface. The plain ring did not have the same polished outer surface as the decorated one and was presumably newer.

An annular iron loop (Cat. no. 90) was found associated with an iron bracelet in Grave **194**. This was of a size that it could have been used as a finger-ring, although iron finger-rings usually have settings for intaglios. A plain copper-alloy annular loop (Cat. no. 89) in Grave **150** was large enough to be used as a simple finger-ring by an adult (diameter: 22mm). However, bone preservation was non-existent, and the size of the grave suggested a juvenile. The only other item in the grave, not particularly close to the loop, was a *bulla* amulet. A similar-sized annular copper-alloy loop (Cat. no. 88) was found in Grave **148** near a collection of amulets and may have been seen to have power of its own (see 'Amulets', below). This had a small penannular loop attached to it, which could have been a suspension loop, either from which the larger loop was hung, or else as a means to suspend some organic object from the larger loop. A penannular copper-alloy wire loop (Cat. no. 91) in Grave **235** was positioned at or near the centre of a bead necklace and may have been an attachment loop for an organic pendant or amulet.

A collection of 10 loops, including two finger-rings, was found in Grave **20476** at Brompton West. The largest of the loops was poorly finished with a ledge on the interior, which may possibly be a casting flash from a two-piece mould that had not been fully removed (Cat. no. 92). The next largest (Cat. no. 93) was very slightly oval, but the effect was enhanced by the deliberate variation in the width of the loop, making the interior look sub-rectangular. It had a flat back and was probably cast in a one-piece mould. Three rings of similar size and slightly uneven, with diamond cross-sections (Cat. nos 95–97), appeared to be unfinished or carelessly made, with two having visible file marks on them.

The remaining artefacts from this grave were found together. There were three small penannular loops, with the ends simply butted together, and one larger annular loop (Cat. nos 94 and 98–100). The annular loop was well-made and of a size suitable for a finger-ring. An annular loop (Cat. no. 102), similar but less well-made than Cat. no. 94, was found with a definite finger-ring (Cat. no. 101), both of which were threaded onto a penannular brooch (Cat. no. 72; see 'Brooches' above). A spiral strip ring (Cat. no. 101) was decorated with spaced groups of grooves. Each of these had a 2mm wide patch of silver or white metal foil wrapped around the loop, which thickened at these points. The higher points on the ring were slightly worn. A bracelet with the same form of decoration was found in a grave dating to AD320/340–400+ at Colchester (Crummy 1983, fig. 44, no. 1688). Grave **20476** also contained what was probably the tapering end of a curved nail (Cat. no. 103). However, this may possibly be an incomplete iron loop (c.30mm in diameter).

Amulets

In addition to the pierced coins (see 'Coins', above), which likely served as amulets, there were an additional seven amuletic objects. Most of these were *bullae*, but they also include up to two phallic pendants and a lead medallion that may have also been an amulet. In at least three cases (Graves **103**, **180** and **203**), the amulets were also associated with beads (see 'Beads', below), and were therefore likely to be part of a composite object.

Bullae

In the Mediterranean region during the early Roman period, *bullae* were large (40–60mm in diameter), frequently made of gold, and were made with a separate attachment loop that were wider at the top. The literature indicates they were worn by male children (Ward-Perkins and Claridge 1976, no. 48). In the provinces, there was a different tradition of *bulla* use that lasted from the 2nd century into the late 4th or 5th century. These *bullae* were smaller (15–40mm), typically made of copper alloy, and only rarely found in silver or gold. They were manufactured from a single sheet of metal, consisting of two discs at either end of a narrow strip, which was beaten out and then folded over so that the connecting strip formed the attachment loop. There was usually a flat flange around the edge, so that the two halves could be glued or soldered together, or had small metal tabs on one half that folded over the flange on the other half (Hamat 2010, plates 2–3; Bolog and Bounegru 2012, 226). Examples of these amulets have been found to contain a varied range of items, including: a fruit kernel; snapdragon seeds; coriander seeds wrapped in a leaf; a raisin; a rose thorn; wood; a cloth; a glass bead; a small phallic amulet; a small statue wrapped in a leaf; an inscribed silver sheet with a coin; and sand (Szilágyi 2005, 17–8, table 3; Migotti 2007, 214; Bolog and Bounegru 2012, 226 and 228). They are common in Pannonia, but are also found in Dacia and Moesia, and less commonly in France, Germany and North Africa. In contrast to the Italian examples, grave evidence shows that most were worn by adult women, some by children,

and only occasionally by adult men (Szilágyi 2005, 21–2). Only a small number of *bullae* are known from Britain (Table 8.3).

The two Bainesse examples differ slightly in design. The example from Grave **150** (Cat. no. 110) was made in the same way as the provincial examples described in the preceding paragraph, but the flattened faces had multiple mouldings. It had small triangular notches around the edge of both faces, but these were purely decorative. If the two sides were held together, it must have been with some form of glue that has not survived. Likewise, if it originally had any contents, they must have been organic. Unusually, it also had a deliberate hole (diameter: 3mm) near the suspension loop.

The second example was from Grave **103** (Cat. no. 106) and was more fragmentary. However, it was made in a similar way to the *bulla* from Grave **150** and had rounded faces with an extremely small flange, which was again decorated with small triangular notches. While those on Cat. no. 110 created slight indentations, those on Cat. no. 106 were deeper and more frequent, created a zigzag edge, although the difference would unlikely be noticed at any distance. The copper-alloy example from York (Table 8.3) had a similar narrow flange, although this was undecorated (RCHME 1962, fig. 58, H6.b).

Grave **103** also produced fragments from a domed fitting with a flat, circular suspension loop (Cat. no. 107), and a scrap of a sheet (Cat. no. 108) with concentric hollowcast mouldings, as seen on the *bulla* from Grave **150** (Cat. no. 110). Although extremely fragmentary, it is likely that this is some form of pendant, perhaps similar to the hollow sphere hanging from a copper-alloy torc worn by an adult woman in a grave dating to the late 2nd to late 3rd century in the Western Cemetery at London (Watson 2003, fig. 49). The *bulla* from Grave **103** was found next to the copper-alloy sheet and some beads (see 'Beads', below).

Phallic pendants

The phallic pendant (Cat. no. 111) in Grave **180** was found towards one end of the grave with a group of beads. This type of amulet faces forward when suspended and has a triangular section with grooves to represent pubic hair above the downwards-pointing penis and testicles. A similar example was found in the area of the cemetery outside the fort at Newcastle upon Tyne, and there has also been a chance find from Ospringe, Kent (Croom forthcoming; PAS ID: KENT-E3D152).

Grave **203** also produced a pendant (associated with copper-alloy beads), in very poor condition, that might be another phallic pendant (Cat. no. 112). If so, it would be a slightly unusual type, with a flat face and a rectangular cross-section suspension loop on the back towards one end rather than the more common position in the middle. However, a pendant from Malton was also flat and examples from Lackford, Suffolk, and Canterbury have similar suspension loops (Garrard 1995, fig. 436, no. 413; Lloyd-Morgan 1997, fig. 50, no. 2; PAS ID: SF-660C05).

Phallic pendants are generally not common grave goods in Britain, although there seems to be a tradition around Bainesse and *Cataractonium* to include them. In addition to these two examples, six fist-and-phallus pendants, associated with an infant's grave, were found nearby at *Cataractonium* during earlier excavations (Parker 2015).

Lead medallion

A large lead medallion or token, apparently made of two thin discs set back-to-back, was found in Grave **148** (Cat. no. 109). The edge was slightly turned up on one side; this face had at least two concentric ridges around the edge and a central raised image that could possibly be an animal standing on a ground line. However, there were unexplained rays projecting from its neck. The other side had three concentric ridges and a long-legged bird on a ground line; unfortunately, the head was missing. The

Table 8.3: examples of bullae known from Britain.

Site	Diameter	Description
Colchester, Essex	20mm	This is of similar size and design of the provincial types, but comes from a Claudian context, making it the earliest known example of this type. It is apparently made in the same way as the provincial form, but did not have much of a flange (Crummy 2016, fig. 5, no. 4).
Caerleon baths, Wales	16mm	Found in drain from the legionary baths in a context dated c.160-230 with some later third-century material (Brewer 1986, fig. 58, no. 58).
Sycamore Terrace, York	15mm (both)	Two examples: one silver and one copper alloy, found in the burial of a rich woman with possible North African ancestry. The silver example had flattened, slightly dished faces, while the copper-alloy one had a very narrow flange. Fourth-century in date, possibly from the second half of the century (Cool 2006, 155–6, no. 107g).
South Shields, Tyne and Wear	21mm	It had folded tabs and contained something that rattles. From fort, vicus or cemetery, unknown date (Allason-Jones and Miket 1984, 3.566).

combination of animal and bird is known from a number of lead tokens and examples from Rome have concentric circles, but these are much smaller in size and there are no known close parallels for this example (Rostovtzeff 1903, cat. 2806, tab. IX, no. 68 and cat. 1688, tab. VI, no. 53). Lead tokens had many different functions, but some had magical or religious significance, with examples found at religious sites, or folded in half (such as an example from Piercebridge; PAS ID: NCL-125BD7). The large size of the disc may mean this was originally intended as a decorative medallion, such as a slightly larger silver example used in a 1st-century silver armlet from Colchester (Crummy 2016, fig. 8). The association of the Bainesse example with other amulets suggests this was also being used as an amulet.

Discussion

Some of the amulets were part of larger groups of items, accompanied by beads, and were clearly intended to be worn. The *bullae*, possible pendant from Grave **103**, phallic pendant from Grave **180**, and the possible phallic pendant from Grave **203** were all found with beads and may have been part of, or associated with, bracelets or necklaces. Another possibility is that they were a part of a string of charms that was sewn onto clothing, such as those on the swaddling clothes of a votive figure of an infant from Italy (Carroll 2012, fig. 3). Similar groups are known from other Romano-British cemeteries. A bracelet of one amber and four glass beads, a pierced coin of Nero and a pierced dog's tooth was found in a late 2nd- or 3rd-century cremation burial at Chichester (Down and Rule 1971, 114–5, burial 228, fig. 5.17). At Colchester, two late 4th-century graves of children or infants contained a possible bracelet consisting of three amber and three glass beads, and two pierced coins, and a bracelet or necklace of five amber, four glass and two jet beads, a silver lunate pendant and a pierced coin (Crummy *et al.* 1993, graves 15 and 41, tables 2.52 and 2.54).

The assemblage from Grave **148** contained a pierced coin (Cat. no. 55, discussed above) and was associated with an animal tooth with possible traces of a copper-alloy attachment, a lead medallion (with no obvious means of suspension) and a circular loop with its own pendant loop, perhaps for attaching something organic (Cat. no. 109). As some of these objects were designed for suspension, it is possible some organic method was used to hang the lead medallion. Otherwise, these may have been kept in a pouch.

Beads and bead strands

Elizabeth M. Foulds

Beads were found in seven Roman graves from across the A1 scheme. They were all recovered from inhumations, most of which were within Bainesse Cemetery, but they also occurred in one inhumation at Scurragh House (Table 8.4). There were two instances of beaded necklaces (Graves **235** and **10827**), two possible shorter strands that may have been bracelets (Graves **103** and **180**), and three instances of small numbers or single beads (Graves **82**, **203** and **221**).

There is no standard for recording or reporting on Roman period glass beads. This report largely follows the protocol set out for Iron Age glass beads (Foulds 2017a), as well as terminology and reporting structures as set out by other key authors (Guido 1978; Swift 2000; Cool 2010a). Individual bead types will be discussed first followed by discussions of beads and bead strands in burials.

Glass beads

Six types of monochrome glass beads were found throughout the burials: annular/globular, biconical, hexagonal, metal-in-glass, miniscule, and rectangular. Simple monochrome annular and globular beads are difficult to date, due to the lack of diagnostic features, but they are often abundant at Roman sites. Blue annular and globular examples were found in the strand in Grave **235** (Cat. nos 119–121), green globular examples occurred in Grave **180** (Cat. nos 114–118), and blue globular examples were found in the strand in Grave **10827** (Cat. nos 122–124). Although most monochrome beads cannot be closely dated, some opaque yellow annular beads are a distinctive type and many of these are likely to be Iron Age in origin (Foulds 2017a), although there are known examples from Roman period sites (e.g. Castleford; Cool and Price 1998). This may suggest that they continue to be used over long periods of time, or that they continue to be manufactured over long periods of time. This type of bead was only found in Grave **10827** (Cat. nos 125–130).

Grave **103** produced an unusual group of opaque black long smooth biconical beads (Cat. nos 131–134). The shape is a common bead shape for the Roman period, but they usually occur in blue or green in Britain. In Britain, black beads were made primarily from jet or shale, whereas a recent review has shown that black glass was used more often in the rest of the Roman Empire and for a wider variety of bead types than has been identified in Britain by Guido (Cosyns 2011). Unfortunately, the only biconical beads identified by Cosyns (*ibid.*, 112) were small biconical beads measuring 2.5–3mm in diameter and length. These are much smaller than those from Grave **103**, which measured approximately 5–6mm in maximum diameter and 12–17mm in maximum height. However, it is clear that these beads fit with the wider pattern of the use of black glass in the Roman Empire, and the shape is consistent with other Roman beads. It is likely that the use and popularity of both jet or shale and black glass jewellery were linked, as Cosyns (2011) states that the use of black glass jewellery became common

Table 8.4: summary of bead types by burial.

			Bainesse Cemetery						Scurragh House	Grand Total
Material	**Type**	**Date**	**82**	**103**	**180**	**203**	**221**	**235**	**10827**	
Copper-alloy	Annular	Not closely databale	-	-	1	-	-	-	-	1
	Barrel		-	-	-	3	-	-	-	3
	Unknown		-	-	-	-	2	-	-	2
		Cu alloy Total	**-**	**-**	**1**	**3**	**2**	**-**	**-**	**6**
Faience	Melon	late 1st—2nd century AD	-	-	-	-	1	-	-	1
		Faience Total	**-**	**-**	**-**	**-**	**1**	**-**	**-**	**1**
Glass	Annular (opaque yellow)	Iron Age—Roman period	-	-	-	-	-	-	6	6
	Annular/globular (blue)	Not closely databale	-	-	-	-	-	3	3	6
	Annular/globular (green)		-	-	5	-	-	-	-	5
	Annular (large multi-coloured)	late 1st—2nd century AD?	-	-	-	-	1	-	-	1
	Biconical (long smooth black)	mid-2nd century AD+	-	4	-	-	-	-	-	4
	Biconical (short blue)	late 2nd century AD+	-	-	-	-	-	-	1	1
	Hexagonal (long blue)	2nd—3rd century AD?	-	-	-	-	-	1	-	1
	Hexagonal (green)	Roman	-	-	3	-	-	-	-	3
	Metal-in-glass	late 2nd century AD+	1	-	-	-	-	-	5	6
	Miniscule segmented (opaque red)	c. 2nd century AD +	-	3	-	-	-	-	-	3
	Minsicule annular (blue)		-	1	-	-	-	-	-	1
	Minsicule annular (blue-green)		-	2	-	-	-	-	-	2
	Minsicule annular (opaque red)		-	11	-	-	-	-	-	11
	Minsicule annular (white)		-	14	-	-	-	-	-	14
	Minsicule annular (opaque yellow)		-	4	-	-	-	-	-	4
	Rectangular (blue)	3rd—4th centuries AD	-	-	-	-	-	5	1	6
		Glass Total	**1**	**39**	**8**	**-**	**1**	**9**	**16**	**74**
Jet	Annular/globular	3rd—4th century AD	-	-	3	-	-	-	1	4
	Barrel (short)		-	-	-	-	-	-	1	1
	Biconical (long smooth)		-	-	-	-	-	-	1	1
	Cylindrical (incised)		-	-	-	-	-	-	2	2
	Cylindrical (long decorated)		-	-	-	-	-	1	-	1
	Cylindrical (short)		-	-	2	-	-	1	2	5
	Double perforated spacer		-	-	-	-	-	4	-	4
	Facetted		-	-	-	-	-	-	2	2
	Segmented		-	-	-	-	-	13	76	89
	Unknown		-	-	1	-	-	-	-	1
		Jet Total	**-**	**-**	**6**	**-**	**-**	**19**	**85**	**110**
		Grand Total	**1**	**39**	**15**	**3**	**4**	**28**	**101**	**191**

across the Empire in the second half of the 2nd century AD, which precedes the popularity of jet jewellery in Britain that is attributed to the 3rd century AD (Allason-Jones 1996, 9).

Three beads from Grave **180** were green and hexagonal in cross-section (Cat. nos 142–144). One of these was larger than the others and had very crisp apexes that formed the edges of the hexagon. However, the other two examples were smaller, had less defined apexes, and were less crisply made. They both appeared to be produced from the same coloured glass, so the differences may indicate different levels of skill in the production of this type of bead. Green hexagonal beads are thought to mimic emeralds found on high-status jewellery and were used throughout the Roman Empire (Guido 1978, 96; Swift 2003b). They were used over a very long period and are not attributable to a specific date (Guido 1978, 96–7).

A single blue hexagonal glass bead was found in one of the inhumations (Cat. no. 145; Grave **235**). It was very different in comparison to the green hexagonal beads, as it was longer, thinner, and slightly tapered. Guido has noted that blue examples were very rare and has cited examples from sites with very late Roman period activity and post-Roman occupation, such as Lankhills Cemetery in Winchester, the Dun Beag Broch in Skye, and Jarlshof in Shetland (Guido 1978, 96–7). Both the Lankhills and Dun Beag Broch examples were considerably shorter than that from Bainesse, which measured 16.2mm long and 3.8 x 3.9mm wide (the Jarlshof examples appear to be unpublished). However, the situation may be different in continental Europe, as Petculescu (1995, 199) has stated that this type of bead was a common 2nd- and 3rd-century type and was found throughout the Roman world. However, in Swift's (2000, 102 and 295) analysis of late Roman glass beads across the Empire, she catalogued only 12 examples from seven sites and suggested that blue hexagonal beads were rare compared to those produced using green glass.

A single metal-in-glass bead (Cat. no. 136) was found in Grave **82**. It had collars on both ends of the perforation, which suggested that it was originally formed as a segmented bead. Five examples of this type of bead were found on the strand of beads in Grave **10827** (Cat. nos 137–141). Metal-in-glass beads are often attributed to the late Roman and post-Roman periods (Boon 1966, 1977; Guido 1978), although some can be attributed to late 2nd- to 3rd-century contexts (e.g. 41 beads in cremation burial group 89 at Baldock, Hertfordshire; Westell 1931). Three examples were found during previous excavations at *Cataractonium*. One (Cool and Price 2002a, 259, cat. no. 15) was found in the gravel makeup of the Bathhouse Room 2 floor (site 433), providing a date of c.AD160–200. The other two examples were from late Roman contexts: a single segment from the excavations at Catterick Bridge (Site 240, no. 4; Bell and Thompson 2002b, 262) from a late 4th- to early 5th-century context; and a gold-in-glass bead with five connected segments (Site 452, no. 4; Price *et al*. 2002, 262–263) from a mid- to late 4th-century deposit of river cobbles found during excavations at Thornborough Farm.

Approximately 35 miniscule beads, plus additional fragments, were identified in Grave **103** (Cat. nos 146–180). They were made from a variety of glass colours, including opaque red, opaque yellow, translucent blue-green, slightly opaque yellow, milky white, and slightly opaque blue. The majority were annular in shape. However, a couple of examples were connected to form a segmented bead. Many of these miniscule annular beads had collars around the perforation, which suggested that they were originally manufactured as a segmented bead but had later broken apart. This was supported by the similarity in diameter that the segmented examples displayed when compared to the annular examples.

The miniscule beads ranged in size from 2.9–3.8mm in diameter and 1.9–2.4mm in height (excluding the segmented examples). Perforation diameters were very small and thus difficult to measure but ranged between approximately 0.7 and 1.6mm in diameter. Although annular beads were included in Guido's (1978) typology (Group 6), the type description did not include miniscule examples such as these. However, with modern excavation techniques, this type is becoming increasingly recognised. For example, similar beads have been recovered from two inhumations from London (Barber and Bowsher 2000, B197 and B652), one of which was dated to AD180–300 and the other AD200–400. Thus, a 2nd-century AD or later date seems likely until further dated finds can refine this further. However, caution is needed when dating miniscule beads from unstratified/undated contexts, as Iron Age examples have recently been found within the chariot burial at Wetwang Slack, Yorkshire (Foulds 2017a).

Five examples of crudely formed translucent blue rectangular beads were also found on the bead strand in Grave **235** at Bainesse Cemetery (Cat. nos 181–185), and there was a single example on the Grave **10827** bead strand (Cat. no. 186). These beads varied slightly in size and shape. Guido (1978) dated them mainly to the 3rd and 4th centuries AD. Swift (2000, 113) has demonstrated that blue rectangular examples in particular are only found in Britain and along the Danube and has suggested that they may have been manufactured in both locations.

A single polychrome bead was found in Grave **221** (Cat. no. 113). It was annular in shape and made primarily from translucent blue-green glass. Both faces were decorated

with three blue and white whirl dots on each side, and the circumference of the bead was decorated with three rows of cable twists. The cable twists sandwiched a yellow and white twist between blue and white twists. The bead was complete, although a fragment had broken away at some point, most likely after deposition, given that it was found with the largest portion of the bead.

This bead was very different from many of the beads used in the Roman period, which tended to be very small (excluding melon beads). However, it bore similarity with Guido's (1978) Class 9 (annular beads decorated with two-colour twisted cables) and some Group 2 beads (miscellaneous spiral-decorated beads). The Class 9 beads were large annular beads, which were decorated with cable twists that were usually placed as a continuous wave around the surface of the bead. The type definition of Guido's Group 2 is nebulous, and it does not form a coherent group suitable for comparison. However, some have the same whirl/spiral design and cable twist as those found on the Bainesse bead. These include examples from Traprain Law, East Lothian (Cree 1923), and The Lanes, Carlisle (Price and Cottam 2010, 257, fig. 113). There were also similarities between this bead and Roman period glass bangles, especially Kilbride-Jones' Type 2 (Kilbride-Jones 1937; Stevenson 1953; 1976; Price 1988). It is possible that the similar patterns in colour choice and decorative motif indicates that there was a connection between the manufacture of both types of objects.

Price (1988, 354) and Guido (1978) suggested that Roman period beads and bangles with twisted cable motifs were a British design and were manufactured for the local population, rather than by 'Romans'. This is a possibility, given that there is evidence for different regional forms of dress found throughout the provinces (Rothe 2009; Croom 2010). However, it would be wrong to assume any continuity with the use of pre-Roman glass bangles. Evidence for glass bangles in Britain is exceptionally limited compared to continental Europe (Roymans *et al.* 2014), as only a small number of fragments have been found in Britain (Foulds 2017a). This suggests that they were probably never worn in great numbers. In contrast, there are stronger connections between the use of large annular glass beads in the early Roman period in Britain.

Dating and interpreting the large multi-coloured annular bead is challenging, as the majority of similar beads were not found through modern excavation. The only exception is a bead from Carlisle, but this was made using different coloured glass and was found in a 2nd- to 3rd-century AD context (McCarthy 2010). In contrast, Type 2 glass bangles are suggested to date to around the end of the 1st century AD (Price 1988, 347), although finds from dated contexts are limited. Through similarities to other beads and bangles, this bead may date to the 1st or 2nd century AD.

Beads of other materials

Beads made from materials other than glass included faience, jet, and copper-alloy. The only faience bead was a small, turquoise-blue melon bead from Grave **221** (Cat. no. 187). It was well used by the time it was deposited, as the perforation ends were very worn and there was a small chip missing. This is a common type of Roman bead that is often found deposited in contexts throughout the Roman period, but they typically date to around the late 1st to 2nd century AD. However, they are not common finds within British burials.

Beads made from jet were found in three Graves: **180**, **235** and **10827**. The majority of these were found on the bead strand from Grave **10827**. Types included annular/globular, barrel, biconical, cylindrical, facetted, and segmented. A small number of these were decorated. The beads from the strand from Grave **10827** had the greatest range of types. In addition to these, four double perforated beads were found in Grave **235** (Cat. nos 202–205). Three were complete and one was broken (as seen in Allason-Jones 1996, 27–28; Bell and Thompson 2002a, 178, cat. no. 2). Two types of decoration were found on the curved edges. One style displays as a series of notches along the curved length (Cat. nos 203 and 205), while the other consists of inscribed decoration in the middle of the curved edge, with a ridge emanating from either end (Cat. nos 202 and 204). Originally, multiple examples of this type of bead would have been strung together to form a single sinuous strand that was used as a bracelet (similar to the 38 rectangular double perforated beads from grave 951 at site 46 Bainesse; see Bell and Thompson 2002a, 178–9). They often repeated the same style of decoration on the edges, so that they repeated a motif, but could vary in size to form a graduated strand. However, in this case these were reused or repurposed and combined with other types of beads. The use of jet for jewellery is usually attributed to as early as the 2nd century AD, but it became very popular in the 3rd century AD (Allason-Jones 1996, 9).

At least six copper-alloy beads were included in the burials, although in some cases they had disintegrated prior to analysis. It is possible that additional copper-alloy beads were deposited in the graves but did not survive. Three barrel-shaped examples were found in Grave **203** (Cat. nos 299–301). One of these beads (Cat. no. 300) was slightly squashed and was found with a fragment of club moss fibre inside it (Gleba *et al.* 2017; see also 'Organic finds', below). An annular copper-alloy bead was found in Grave **180** (Cat. no. 298), and two fragmented copper-alloy beads were found in Grave **221**

(Cat. nos 302–303).

The copper-alloy beads were also unusual, as metal beads are not often found in Roman contexts (Cool 2002, 27). Cool has suggested that such beads might have been used with military equipment, as Mould (1991, 194) has recognised that they are often found on military sites. However, now that they have been found in burial contexts, this may contradict this perspective, although it is entirely possible that they were being reused after serving their original function.

Beads and bead strands in burials

Grave **82** contained only a single bead, namely the globular metal-in-glass example (Cat. no. 136). It was found in the central area of the grave cut. Very little skeletal evidence remained, but the bead was not found in the vicinity of the head. It is possible that it was a deliberate inclusion, perhaps in a pouch or other organic container, but given that it was found on its own, it may also have been an unintentional or accidental inclusion.

The approximately 39 beads from Grave **103** were a very unusual collection. Four of the beads were opaque black smooth biconical beads (Cat. nos 131–134), while the remainder was made up of miniscule annular and segmented beads (Cat. nos 146–180). The use of opaque black and opaque red glass for beads is also unusual for Roman Britain. In terms of the overall size of the collection, they do not necessarily make sense together, given the diminutive nature of the annular examples. However, if they were all strung together, they would have created a strand approximately 131.7mm long. This is not long enough to create a continuous strand of beads for a necklace, even if worn by an infant, but could have formed a bracelet long enough to be worn by a young child up to about two years old (no skeletal material was found, but the length of the grave cut was short at 0.83m). However, it is possible that a necklace could have been created by using a longer piece of string was used than needed. The beads were found near to a *bulla* type amulet (see 'Bullae', above). It may make sense for the beads and the *bulla* to have been strung together, although the bead perforation holes are so small that the thickness of the stringing material would have made it quite delicate in use.

Approximately 15 beads were found in Grave **180**, which consisted of eight glass beads (Cat. nos 114–118, 142–144), six jet beads (Cat. nos 188–190, 194–185, 297) and a copper-alloy bead (Cat. no. 298). They were found in the grave fill along with a copper-alloy phallic pendant (see 'Phallic pendants', above). There were two 'clumps', each containing a mix of the bead types and materials. The jet beads were of annular/globular and cylindrical types and were similar in shape and size, while the glass beads were green, with some falling into the globular type and others being hexagonally-sectioned. The copper-alloy bead had mostly disintegrated, but one large fragment suggested that it was probably annular in shape.

Although no skeletal remains survived, the beads and pendant from Grave **180** were found together at one end of the grave cut. It is unclear whether they were worn by the deceased individual or placed in the grave. It was likely that all the beads were strung together. From the surviving intact beads, it was possible to estimate that they would have formed a strand approximately 100mm long, which on their own would not have been long enough for a necklace, even if worn by a child. However, it is possible that they were strung for a bracelet, or a longer piece of string was used for a necklace as with the bead strand from Grave **103**.

Three similar annular copper-alloy beads were found in association with Grave **203** (Cat. nos 299–301), along with a strand of club moss (Cat. no. 374; Gleba *et al*. 2017), and a possible phallic pendant (Cat. no. 111). It seems likely that a long-twisted thread of club moss strung the three copper-alloy beads together, along with the pendant. These three beads were not found in the primary fill of this burial and they could be a later and/or intrusive element. Nevertheless, they are extremely significant, as copper-alloy beads are a rare find from Roman Britain. In addition, the surviving string is an extremely rare find, especially because it is possible to make the case that they were strung together. The beads were not necessarily used in a personal adornment sense (i.e. necklace or bracelet) but may have formed a decorative component of some other object.

These beads are also interesting because the club moss string had a very small overall diameter compared to the perforation diameter of the beads, even if the string had shrunk over time due to age. As prehistoric and Roman period textile survival is rare in Britain, we have little understanding of the types of materials and the diameter of string used with beads. Perforation diameter of later prehistoric and Roman period beads can vary from only 2mm to 10mm, but this only indicates the maximum size of whatever medium beads were strung on to. The fact that the club moss was so small in comparison to the relatively large size of the copper-alloy beads is interesting, but there is also the possibility that they were reused and that they were previously strung onto something that was much larger in diameter.

Grave **221** was assumed to be that of a child, although no skeletal remains survived. Four beads were found together in a line along with a pierced coin (Cat. no. 56) and had been placed centrally within the grave, which suggested that they were strung together at the time of deposition.

The beads consisted of two copper-alloy beads (Cat. nos 302–303), both of which disintegrated prior to analysis. The third bead was a turquoise-blue faience melon bead (Cat. no. 187). Although the blue glaze was intact in some areas, there was considerable wear (smoothing) around the perforation ends and a chip missing from the perforation. The final bead (Cat. no. 113) was a large ornately decorated glass bead. It was an annular in shape and made primarily from translucent green glass. The circumference of the bead was decorated with three rows of cable twists (see above). Three blue and white whirls were placed on the face of the bead around the perforation hole. The large perforation diameters of the glass and melon beads suggested that they may have been strung onto a leather thong, especially given the weight of the glass bead. It was not clear how the beads and pierced coin would have been used from the way they were deposited in the grave. The decorated glass bead would have been very large in comparison to the other beads, so if it was worn as a bracelet it would have been cumbersome. It may instead have been a collection of charms.

A total of 28 beads were found in Grave **235** (Cat. nos 119–121, 145, 181–185, 196–197, 202–205 and 208–220). Of the seven glass beads, all were translucent blue. They presented a mixture of annular, globular, hexagonal, and rectangular shapes. The remaining 21 beads were jet, most of which were segmented (with two, three, four, and five sections). There was also a cylindrical/barrel shaped bead, an ornate long cylindrical bead, and four double-pierced spacer beads. One of the double-pierced spacer beads was broken approximately in half along one of the perforations, so that only one of the holes would have been functional. Such beads were usually used to form bracelets (Allason-Jones 1996; Bell and Thompson 2002a, 179, cat. no. 2), but the broken example from Grave **235** suggests that it has been reused as part of this necklace. The style of the ornate long cylindrical bead bears some resemblance to the end terminals found on the jet necklace from Walmgate, York, found in 1892 (YORYM H.321.1; Allason-Jones 1996, 26).

The Grave **235** necklace could be partly reconstructed from site photographs and plans and would have formed a strand approximately 206.8mm long. The perforations of the glass beads were very small (0.6–1.6mm in diameter), so the material the beads were strung onto had to be very thin. The four double-pierced spacer beads were evenly dispersed, so that when worn by the deceased individual there was one at the back, front, left, and right. A focal point at the front may have been created by the ornate cylindrical bead, copper-alloy loop (Cat. no. 91), and long hexagonal blue bead, all of which were on the right side of the centre-front jet bracelet bead. The copper-alloy loop may have been an attachment point for an organic pendant (see 'Finger-rings and loops', above). On the left side was the large plain cylindrical bead. The remainder of the necklace was formed by the plainer segmented (mainly three and four) jet and blue glass beads. Alternatively, Cat. no. 91 may have been part of a clasp for the necklace, although there was no evidence for a hook.

In some ways, this necklace seems somewhat haphazard and lacks consistency in the repetition of pattern and colour. However, it reused beads from at least a jet bracelet and possibly from other jet and/or glass bracelets/necklaces. Although seemingly haphazard, there was a pattern created by the placement of the bracelet beads and by placing the visually less interesting beads at the back and the interesting beads at the front—perhaps in an act of display.

Another necklace made from jet and glass beads was found within inhumation Grave **10827** at Scurragh House. There was a total of 85 jet and sixteen glass beads (Cat. nos 122–130, 137–141, 186, 191–193, 198–201, 206–207 and 221–296) with no evidence for a clasp or fastening. The beads were found on top of the skull area, but it was not clear if they were worn at the time of burial. There were five types of glass bead: short blue biconical, blue globular and opaque yellow annular, all of which fall into Guido's (1978) Class 8 and Foulds' (2017a) Class 1, Type 110; metal-in-glass; and a single blue rectangular (square-sectioned) bead. There were several different types of jet bead, including annular, short barrel, a smooth biconical type, cylindrical beads with incised decoration, short cylindrical beads, facetted, and segmented types with between two and four sections. There was great variation in the segmented beads, as some had very clear segment definition, while others had only slightly incised lines to suggest multiple sections. It is assumed that the majority of these were initially shaped on a lathe and the segments were later sawn apart to form individual or segmented beads. In some cases, the beads were not sawn precisely in the middle of the two segments, but instead included a portion of the next section.

If the beads were strung together in a single continuous strand, it would have totalled approximately 720mm in length. This would result in a long necklace that would have hung approximately at the bottom of the sternum. Due to the alignment of the beads at the time of excavation, reconstruction of the necklace has been difficult (Table 8.5). However, it was clear that there were clusters and densities of beads, which suggested that at least a portion of the necklace may have been double-stranded.

Inside strand	Outside strand
9003.6	
9003.1	
9003.5	
9003.2	
9003.3	
9003.4	
9003.59	
9003.58	
9003.57	
9003.54	
9003.53	
9003.52	
9003.6	
9003.51	
9003.95	
9003.98	
9003.5	9003.46
9003.49	9003.48
9003.94	9003.45
9003.93	9003.47
9003.92	9003.42
9003.99	9003.31
9003.44	9003.3
9003.43	9003.29
9003.41	9003.82
9003.79	9003.33
9003.8	9003.28
9003.81	9003.32
9003.83	9003.27
9003.84	9003.25
9003.37	9003.24
9003.35	9003.85
9003.34	9003.26
9003.87	9003.9
9003.86	9003.91
9003.36	9003.89
9003.4	9003.88
9003.75	9003.38
9003.74	9003.39
9003.76	9003.73
9003.96	9003.72
9003.71	9003.23
9003.77	9003.69
9003.78	9003.7
9003.16	9003.2
9003.67	9003.68
9003.66	9003.19
9003.65	9003.18
9003.64	9003.21
9003.63	9003.17
	9003.22
9003.8	
9003.9	
9003.7	
9003.1	
9003.15	
9003.14	
9003.11	
9003.61	
9003.97	
9003.13	
9003.62	
9003.55	
9003.12	
9003.56	

Table 8.5: jet and glass bead necklace (RF9003) reconstructed bead order from Grave 10827.

Discussion

In total, there were seven inhumations across the A1 scheme that contained beads and there were no instances of beads in cremation burials. Beads were deposited singly and in small groups, and there were at least two instances of necklaces. In most cases, poor preservation of skeletal material has made it impossible to determine the age and gender of the deceased individual, as well as to assess whether the beads were worn at the time of burial. The only clear instance was Grave **235**, which contained the well-preserved remains of a child (3–5 years) accompanied by a jet and glass bead necklace that had been placed in the neck region. In all other cases, age can only be estimated as likely to be young due to the small size of the grave cuts. The inclusion of strings of beads and grave goods more generally with children in Roman burials is a recognised pattern (Cool 2010a, 296; Gowland 2016b).

Single beads and small groups of beads

Single or small groups of beads could be accidental or unintentional inclusions in grave goods, or the result of disturbing earlier burial and/or settlement activity (e.g. grave 87 at Lankhills; see Booth *et al.* 2010). These are possible interpretations of the single gold-in-glass bead from Grave **82**. Other possible interpretations for single beads and small groups include: amulets or talismans; parts of larger organic objects that did not survive; or beads sewn onto clothing. It is also possible that they were not used by the deceased person in life, but represented a gift or token placed in the grave at the time of burial. Alternatively, three facetted stone beads were found in an inhumation in London and were suggested to be part of the contents of a box (from burial 291; see Barber and Bowsher 2000). These beads did not form a wearable object, so they may have been keepsakes or collected from a broken necklace. These are possible interpretations for the small collections of beads found at Bainesse in Grave **221** and possibly **203**.

The collection of beads from Grave **221** is a particularly interesting group. On its own, the melon bead (Cat. no. 187) was not especially unusual, as they are well known from Roman period sites in Britain. Some authors have suggested that they were used to decorate military equipment or horse harnesses (Price 1995, 107), based on evidence from an Italian burial (Pirling 1997). Melon beads from inhumations in Britain are rare, but they do occur. For example, a single melon bead was included on a necklace in a 1st-century AD 'Durotrigian' style burial of a young woman from Whitcombe, Dorset (burial 8; see Aitken and Aitken 1990). There is also evidence of an unburnt melon bead associated with a 1st- or early 2nd-century AD cremation burial in Gloucester (burial 1266; see Simmonds *et al.* 2008). Cool (2008, 108) has

pointed out that there are growing numbers of instances that suggest melon beads were used as talismans.

Accompanying the melon bead was the large annular cable twist bead with applied spirals (Cat. no. 113). This may be the first recorded instance of a cable twist bead in an inhumation and it is possible that both this large bead and the melon bead were amuletic. Swift (2003a, 343) noted a correlation between opaque beads with coloured trail decoration with children's graves in the late Roman west. Although this practice is later than the assumed date for Grave **221** at Bainesse, a parallel for the use of a large glass bead as a talisman that was attached to a bell via a two-stranded cable bracelet can be found in a grave at Butt Road, Colchester dated to c.AD320–450 (Crummy 1983, cat. 548, cat. 1610). Beads found in other burial contexts with other amuletic objects, such as carved jet bears and bells, have also recently been highlighted by Crummy (2010). The collection of copper-alloy beads, alongside a melon bead, large decorated annular bead, and pierced coin presents an interesting case. Given that the grave was possibly that of a child, perhaps it was a toy or collection of curios. Alternatively, considering the unusual combination of the large decorated bead and the melon bead, and the possibility that both could have been amulets, it is possible to view this collection as something protective or even magical.

Beads strands

Two inhumations contained clearly identifiable necklaces, one from Bainesse (Grave **235**) and one from Scurragh House (Grave **10827**), both of which combined jet and glass beads. Jet bead necklaces are well known from Roman Britain and tend to be dated to the latter half of the Roman period. Some of these necklaces were made completely from jet, for example: Bainesse (Bell and Thompson 2002a, 177); Newcastle upon Tyne (ASDU 2016a); Boscombe Down, Amesbury, Wiltshire (unpublished but mentioned in Pearce 2012); York (H.321.1 and H.321.4 in Allason-Jones 1996); and at least one necklace from Colchester (Crummy *et al.* 1993). There are also examples of necklaces made from a mixture of jet and glass beads: Hartlepool (Daniels *et al.* 1987); Poundbury, Dorset (Farwell and Molleson 1993); and possibly Colchester (grave 69; Crummy *et al.* 1993).

The Hartlepool necklace is the nearest geographically and probably the most comparable to the Scurragh House necklace (Grave **10827**). It was also primarily made of segmented jet beads (120 in total) and 26 glass beads, including 13 gold-in-glass, ten blue globular, one short blue biconical, one green hexagonal, and one green cylindrical. Both this example and the Scurragh House necklace included gold-in-glass beads, blue globular, and short blue biconical beads, but the opaque yellow annular beads make the Scurragh House necklace unique.

Two other possible bead strands were found in Graves **103** and **180**. Both strands would have been relatively short and were associated with different types of amulets (*bulla* and phallic). It is possible that the pendants were suspended alongside these beads, but it is not clear if they formed bracelets. They were not associated with surviving skeletal material, so it is also unclear whether these objects were worn or unworn at the time of burial.

Buckle

A belt-buckle was found near the group of circular objects in Grave **20476** at Brompton West (Cat. no. 304). It had a D-shaped loop and a buckle plate with lines of repoussé dot decoration, which was attached to the back-plate with two copper-alloy rivets. This type of belt buckle is dated to the second half of the 4th century and into the 5th century (Cool 2010a, 286).

Catalogue

Brooch

72 Copper-alloy penannular brooch with oval loop. Type D (Booth 2014). Loop L: 41mm, Loop W: 45mm, Wire W: 4mm, Wire Th: 2.5mm. Field 178, Grave 20476, Context 20478, RF7597. Figure 4.50.

Bracelets, armlets and anklets

73 Copper-alloy anklet made from oval cross-section wire. L: 87mm, W: 85mm, Th: 3 x 2mm. Field 163C, Grave 16, Context 13184, RF11799. Figure 3.14.

74 Copper-alloy anklet of single strand torc-twist, possibly with sliding knot fastening. Very fragmentary; approximately half survives. W: 3mm, H: 3mm. Late 3rd or 4th century. Field 163C, Grave 35, Context 12545 (and sample AB), RF715, RF12859, RF12862, RF12863. Figure 3.26.

75 Penannular copper-alloy bracelet made from oval cross-section wire, with groove decoration near the tapered terminals. L: 75mm, W: 65mm, Th: 3mm x 2.5mm. Fourth century. Field 163C, Grave 119, Context 12666, RF10312. Figure 3.68.

76 Copper-alloy anklet made from circular cross-section wire, with sliding knot fastening. L: c.92mm, W: c.89mm, Th: 3mm. Field 163C, Grave 119, Context 12666, RF10313. Figure 3.68.

77 Copper-alloy penannular anklet made from circular cross-section wire. L: c.92mm, W: c.87mm, Th: 3mm. Field 163C, Grave 119, Context 12666, RF10314. Figure 3.68.

78 Copper-alloy wire fragments from either one of the anklets. Th: 2mm. Field 163C, Grave 119, Context

12666 (and samples AA, AF, AH), RF12857, RF12860, RF12861, RF12891, RF12895. Not illustrated.

79 Copper-alloy armlet made of oval-sectioned wire with a sliding knot fastening and spiral decoration. D(max): 85mm, W: 3mm, Th: 2.5mm. First century onwards, but most common in the late Roman period. Field 163C, Grave 130, Context 12979, RF11307. Figure 3.75.

80 Incomplete copper-alloy bracelet with D-shaped cross-section. Th: 3.5mm x 2mm. Late Roman. Field 163C, Grave 149, Context 12530, RF699. Figure 3.90.

81 Penannular copper-alloy bracelet of oval cross-section with blunt, decorated terminals. L: 68mm, W: 55mm, Th: 3 x 5mm. Field 163C, Grave 149, Context 12530, RF704. Figure 3.90.

82 Iron bracelet with circular cross-section. Diam: 45mm, Th: 3.5mm. Field 163C, Grave 194, Context 12374, RF630. Figure 3.129.

83 Iron annular bracelet with sub-rectangular cross-section. Diam: 58mm, W: 8mm, Th: 9mm. Field 163C, Grave 198, Context 13151, RF11751. Figure 3.134.

84 Incomplete copper-alloy bracelet with hook and eye fastening. L: 50mm, W: 42mm, Th: 2mm. Field 163C, Grave 235, Context 13273, RF11888. Figure 3.165.

85 Penannular copper-alloy bracelet with circular cross-section. L: 47mm, W: 44mm, Th: 2mm. Field 163C, Grave 235, Context 13273, RF11889. Figure 3.165.

86 Incomplete iron bracelet with circular cross-section. Diam: 5mm. Field 178, Grave 20198, Context 20196AA, RF7480, RF7481, RF13726. Not illustrated.

87 Copper-alloy anklet of single strand torc-twist, with sliding knot fastening. Diam: c.90mm, Th: 2.5mm. Field 209, Grave 11808 (and sample AA), Context 11814, RF10101. Figure 5.12.

Finger-rings and loops

88 Annular copper-alloy loop of sub-square cross-section, with a smaller penannular loop of D-shaped cross-section attached. Large loop: External Diam: 20mm, Internal Diam: 14mm, Th: 3mm; Penannular loop: Diam: 9.5mm, Th: 1.5 x 2.5mm. Field 163C, Grave 148, Context 12798, RF11145. Figure 3.88.

89 Annular copper-alloy loop of circular cross-section. External Diam: 22mm, Internal Diam: 18mm, Th: 2mm. Field 163C, Grave 150, Context 13034, RF11365. Figure 3.93.

90 Small, incomplete iron ring or loop of circular cross-section. Diam: c.22mm, Th: 2mm. Field 163C, Grave 194, Context 12374, RF642. Figure 3.129.

91 Copper-alloy penannular loop of oval cross-section wire, with one terminal, incomplete, bent upwards. Diam: 12mm, W: 1.5mm, H: 2mm. Field 163C, Grave 235, Context 13273, RF11906. Figure 3.165.

92 Large annular copper-alloy loop with a roughly oval cross-section, poorly finished, with an uneven thickness and ledges on the interior. Diam: 49mm, W: 6mm, Th: 5mm. Field 178, Grave 20476, Context 20478, RF7598. Figure 4.50.

93 Medium-sized, slightly oval, annular copper-alloy loop with hemispherical cross-section. Diam: 30mm, W: 3.5 to 5mm, Th: 2.5mm. Field 178, Grave 20476, Context 20478, RF7599. Figure 4.50.

94 Small annular copper-alloy loop with sub-rectangular cross-section. Diam: 19mm, W: 1.5mm, Th: 3mm. Field 178, Grave 20476, Context 20478, RF7604. Figure 4.50.

95 Small annular copper-alloy loop with diamond cross-section. Diam: 19mm, W: 3.5mm, Th: 3mm. Field 178, Grave 20476, Context 20478, RF7605. Figure 4.50.

96 Small annular copper-alloy loop with diamond cross-section, with file marks on one section. Diam: 19mm, W: 3mm, Th: 3mm. Field 178, Grave 20476, Context 20478, RF7606. Figure 4.50.

97 Small annular copper-alloy loop with roughly diamond cross-section, with faint file marks. Diam: 19mm, W: 3mm, Th: 2.5mm. Field 178, Grave 20476, Context 20478, RF7607. Figure 4.50.

98 Small penannular copper-alloy loop with circular cross-section. Diam: 15–16mm, Diam wire: 2mm. Field 178, Grave 20476, Context 20478, RF13720. Figure 4.50.

99 Small penannular copper-alloy loop with circular cross-section. The wire tapers slightly, so the two butted ends are uneven. Diam: 15.5mm, Diam wire: 2mm. Field 178, Grave 20476, Context 20478, RF13721. Figure 4.50.

100 Small penannular copper-alloy loop with circular cross-section. Diam: 15mm, Diam wire: 1.8mm. Field 178, Grave 20476, Context 20478, RF13722. Figure 4.50.

101 Copper-alloy spiral finger-ring with one tapered end. It is decorated with groups of grooves that are decorated with silver foil. Int Diam: 18.5mm, W: 1.5mm, Th: 3mm overall, H: 12mm. Field 178, Grave 20476, Context 20478, RF13723. Figure 4.50.

102 Small annular copper-alloy loop with sub-rectangular cross-section. External Diam: 21mm, Internal Diam: 15mm, Wire Diam: 2.5mm. Field 178, Grave 20476, Context 20478, RF13724. Figure 4.50.

103 Incomplete fragment of curved iron. Field 178, Grave 20476, Context 20478, RF7608. Not illustrated.

104 Annular copper-alloy finger-ring of flattened oval cross-section. Internal Diam: 16.5mm, W: 1.5mm, Th: 3mm. Field 177, Grave 20955, Context 20957, RF7693. Figure 4.8.

105 Annular copper-alloy finger-ring of sub-rectangular cross-section, decorated with transverse grooves. Int Diam: 16mm, W: 1.9mm, Th: 2mm. Field 177, Grave 20955, Context 20957, RF7694. Figure 4.8.

Amulets

Pierced coins are catalogued in the 'Coins' section, above (Cat. nos 55–71).

106 Copper-alloy amulet (*bulla*). Diam: c.22mm, H: c.18mm, Th: 0.5mm. From 1st century, but more common in the 3rd and 4th centuries. Field 163C, Grave 103, Context 12900, RF11257. Figure 3.62.

107 Very fragmentary copper-alloy circular attachment loop with part of hollow domed feature. The dome suggests a possible *bulla*, but the suspension method is different. L: 9mm, W: 7mm, Th: 1.5mm, Diam of hole: c.3mm. Field 163C, Grave 103, Context 12900AA, RF12866. Figure 3.62.

108 Incomplete copper-alloy disc with at least two hollowcast concentric ridges, possibly from an amulet or a decorative boss. Too fragmentary for identification. D: c.25mm+, Th: 0.5mm. Field 163C, Grave 103, Context 12900, RF11251. Figure 3.62.

109 Lead token or medallion. D: 31mm, Th: 3.5mm. Field 163C, Grave 148, Context 12798, RF11146. Figure 3.88.

110 Copper-alloy amulet (*bulla*). Diam: 24mm, H: 29mm, Th: 10mm. From 1st century, but more common in the 3rd and 4th centuries. Field 163C, Grave 150, Context 13034, RF11364. Figure 3.93.

111 Copper-alloy phallic pendant. L: 25mm, W: 19mm, H: 13mm. Field 163C, Grave 180, Context 12734, RF13157. Figure 3.115.

112 Copper-alloy pendant in poor condition with rectangular cross-section and remains of a suspension loop. L: 23mm, W: 3mm, Th: 3mm. Field 163C, Grave 203, Context 13004, RF11323. Figure 3.142.

Glass beads

Annular (polychrome)

113 A large annular glass bead made primarily from translucent green glass. Each perforation face was decorated with three blue and white whirls. The circumference of the bead was decorated with cable twists made from blue and white, and yellow and white glass. A small fragment of the bead has detached, but as there were numerous cracks visible and a slight iridescence on the green glass, this was likely to have occurred in antiquity after inclusion in the grave. Glass. Diam.: 34.6mm, H: 14.4mm, Perforation diam.: 7.2–7.5mm. Field 163C, Grave 221, Context 13113, RF11398.1. Figure 3.158.

Annular and globular

114 Globular translucent green bead. Complete. Glass. Diam.: 4.8mm, H: 4.7mm, Perforation diam.: 1.3–1.7mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

115 Globular translucent green bead. Complete, but broken in half. Glass. Diam.: 4.9mm, H: 4.9mm, Perforation diam.: 1.5mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

116 Globular translucent green bead. Complete. Glass. Diam.: 5.0mm, H: 4.3mm, Perforation diam.: 1.0–1.3mm. Field163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

117 Globular translucent green bead. Complete. Glass. Diam.: 6.4mm, H: 5.5mm, Perforation diam.: 1.2–1.5mm. Field 163C, Grave 180, Context 12734, RF10471.1. Not illustrated.

118 Globular translucent green bead. Complete. Glass. Diam.: 5.2mm, H: 4.7mm, Perforation diam.: 1.3mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

119 Annular translucent blue bead. Complete. Glass. Diam.: 4.5mm, H: 2.7mm, Perforation diam.: 0.8–1.4mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

120 Annular translucent blue bead. Complete. Glass. Diam.: 3.6mm, H: 2.2mm, Perforation diam.: 1.1mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

121 Globular translucent blue bead. Complete. Glass. Diam.: 6.1mm, H: 4.7mm, Perforation diam.: 1.5mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

122 Globular translucent blue bead in four fragments. Glass. Diam.: 5.8mm, H: 3.0mm. Field 210, Grave 10827, Context 10832, RF9003.16. Not illustrated.

123 Translucent blue globular bead. Glass. Diam.: 6.2mm, H: 5.0mm, Perforation diameter: 1.2–2.7mm. Field 210, Grave 10827, Context 10832, RF9003.88. Figure 5.19.

124 Translucent blue possible globular bead in four fragments. Glass. H: 4.9mm. Field 210, Grave 10827, Context 10832, RF9003.53. Not illustrated.

125 Opaque yellow annular bead. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Complete. Glass. Diam.: 9.1mm, H: 3.3mm, Perforation diam.: 3.3mm. Field 210, Grave 10827, Context 10832, RF9003.37. Figure 5.19.

126 Opaque yellow annular bead. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Complete. Glass. Diam.: 5.0mm, H: 2.5mm, Perforation diam.: 3.3mm. Field 210, Grave 10827, Context 10832, RF9003.95. Figure 5.19.

127 Opaque yellow annular bead. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Complete. Glass. Diam.: 8.2mm, H: 2.7mm, Perforation diam.: 3.0mm. Field 210, Grave 10827, Context 10832, RF9003.28. Figure 5.19.

128 Opaque yellow annular bead with flattened perforation ends. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Glass. Diam.: 8.8mm, H: 3.0mm, Perforation diam.: 2.6mm. Field 210, Grave 10827, Context 10832, RF9003.20. Figure 5.19.

129 Opaque yellow annular bead. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Complete. Glass. Diam.: 8.8mm, H: 3.0mm, Perforation diam.: 3.3mm. Field 210, Grave 10827, Context 10832, RF9003.9. Figure 5.19.

130 Opaque yellow annular bead with flattened perforation ends and black core. Guido (1978) Class 8/Foulds (2017a) Class 1 Type 110. Glass. Diam.: 9.1mm, H: 3.5mm, Perforation diam.: 2.8mm. Field 210, Grave 10827, Context 10832, RF9003.60. Figure 5.19.

Biconical

131 Long opaque black smooth bicone bead. Complete. Glass. Diam.: 5.2mm, H: 15.2mm, Perforation diam.: 1.6mm. Field 163C, Grave 103, Context 12900AA, RF33019. Figure 3.62.

132 Long opaque black smooth bicone bead. Complete, but heavily weathered. Glass. Diam.: 5.9mm, H: 17.3mm, Perforation diam.: 1.8mm. Field 163C, Grave 103, Context 12900AA, RF33019. Figure 3.62.

133 Long opaque black smooth bicone bead. Complete, but heavily weathered. Glass. Diam.: 4.4mm, H: 12.0mm, Perforation diam.: 1.2mm. Field163C, Grave 103, Context 12900AA, RF33019. Figure 3.62.

134 Long opaque black smooth bicone bead. Nearly complete, but broken into two pieces. Heavily weathered. Glass. Diam.: 5.7mm, H: 11.9mm. Field 163C, Grave 103, Context 12900AA, RF33019. Figure 3.62.

135 Short biconical translucent blue bead. Glass. Diam.: 6.8mm, H: 4.2mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.86. Figure 5.19.

Metal-in-glass beads

136 Globular gold-in-glass bead with a collar around the perforation, suggesting it was originally segmented. Complete. Glass. Diam.: 6.8mm, H: 5.9mm, Perforation diam.: 1.8mm. Field 163C, Grave 82, Context 12793, RF11127. Figure 3.53.

137 Gold-in-glass bead. Probably globular in shape, but with a small chip missing. Glass. Diam.: 5.3mm, H: 3.5mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003.23. Not illustrated.

138 Globular gold-in-glass bead with small chip missing. Glass. Diam.: 5.6mm, H: 4.3mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.50. Figure 5.19.

139 Tiny fragments likely from a gold/silver-in-glass bead. Glass. Field 210, Grave 10827, Context 10832, RF9003.90. Not illustrated.

140 Globular metal-in-glass (?silver) bead. Complete. Glass. Diam.: 5.0mm, H: 3.8mm, Perforation diam.: 1.4mm. Field 210, Grave 10827, Context 10832, RF9003.96. Figure 5.19.

141 Globular gold/silver-in-glass bead. Complete. Glass. Diam.: 5.4mm, H: 3.7mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.100. Figure 5.19.

Hexagonal

142 Hexagonal translucent green bead. Made by folding over glass, seam present. Complete. Glass. L: 4.9mm, W: 5.2mm, H: 9.1mm, Perforation diam.: 1.0–1.7mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

143 Hexagonal translucent green bead. Complete. Glass. L: 5.5mm, W: 6.2mm, H: 10.1mm, Perforation diam.: 2.3mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

144 Hexagonal translucent green bead. Made by folding over glass, seam present. Complete. Glass. L: 4.8mm, W: 4.8mm, H: 7.7mm, Perforation diam.: 1.4–1.8mm. Field 163C, Grave 180, Context 12734, RF10471.1. Figure 3.115.

145 Long tapering hexagonal translucent blue bead. Complete. Glass. L: 3.8mm, W: 3.9mm, H: 16.2mm, Perforation diam.: 1.6mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

Miniscule beads

146 Miniscule double segmented opaque red bead. Glass. Diam.: 3.1mm, H: 4.3mm, Perforation diam.: 0.9mm. Field 163C, Grave 103, Context 12900, RF11256. Figure 3.62.

147 Miniscule annular opaque red bead with partial segment remaining. Glass. Diam.: 3.2mm, H: 3.0mm, Perforation diam.: 1.2mm. Field 163C, Grave 103, Context 12900, RF11254. Figure 3.62.

148 Miniscule annular slightly opaque blue bead. Half present. Glass. Diam.: 3.3mm, H: 2.1mm. Field 163C, Grave 103, Context 12900, RF11256. Figure 3.62.

149 Small fragments of translucent blue-green glass that likely made up at least another bead. Glass. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

150 Miniscule annular translucent blue-green bead. Complete. Glass. Diam.: 3.8mm, H: 2.2mm, Perforation diam.: 1.3mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

151 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.6mm, H: 2.0mm, Perforation diam.: 1.0mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

152 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.2mm, H: 2.1mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

153 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.4mm, H: 2.2mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

154 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.5mm, H: 2.2mm, Perforation diam.: 0.8mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

155 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.6mm, H: 1.9mm, Perforation diam.: 1.3mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

156 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.3mm, H: 2.1mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

157 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.1mm, H: 2.0mm, Perforation diam.: 1.0mm. Field 163C, Grave 103, Context 12900, RF11255. Figure 3.62.

158 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.5mm, H: 2.0mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

159 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.5mm, H: 1.9mm, Perforation diam.: 1.4mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

160 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.2mm, H: 1.9mm, Perforation diam.: 1.2mm. Field 163C, Grave 103, Context 12900, RF11252. Figure 3.62.

161 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.4mm, H: 2.1mm, Perforation diam.: 1.2mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

162 Miniscule annular opaque red bead. Complete. Glass. Diam.: 3.2mm, H: 4.7mm, Perforation diam.: 1.4mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

163 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.0mm, H: 2.4mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

164 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.2mm, H: 2.4mm, Perforation diam.: 1.0mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

165 Minuscule annular milky white bead. Complete. Glass. Diam.: 2.9mm, H: 2.0mm, Perforation diam.: 1.0mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

166 Minuscule annular milky white bead. Complete. Glass. Diam.: 2.9mm, H: 2.0mm, Perforation diam.: 1.4mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

167 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.3mm, H: 2.2mm, Perforation diam.: 1.3mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

168 Miniscule annular milky white bead. About half present. Glass. Diam.: 3.4mm, H: 2.0mm, Perforation diam.: 1.3mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

169 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.8mm, H: 2.1mm, Perforation

diam.: 1.2mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

170 Miniscule annular milky white bead. About half present. Glass. Diam.: 3.5mm, H: 2.3mm, Perforation diam.: 1.2mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

171 Minuscule annular milky white bead. Nearly complete. Glass. Diam.: 3.3mm, H: 2.1mm, Perforation diam.: 0.7mm. Field 163C, Grave 103, Context 12900, RF11256. Not illustrated.

172 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.5mm, H: 2.3mm, Perforation diam.: 0.8mm. Field 163C, Grave 103, Context 12900, RF11256. Figure 3.62.

173 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.3mm, H: 2.1mm, Perforation diam: 1.6mm. Field 163C, Grave 103, Context 12900, RF11253. Figure 3.62.

174 Miniscule annular milky white bead. About half present. Glass. H: 2.1mm. Field 163C, Grave 103, Context 12900, RF11253. Figure 3.62.

175 Minuscule annular milky white bead. Complete. Glass. Diam.: 3.4mm, H: 2.2mm, Perforation diam.: 1.5mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

176 Three fragments of another miniscule annular milky white bead. Glass. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

177 Miniscule annular opaque yellow bead. Complete. Glass. Diam.: 3.5mm, H: 2.2mm, Perforation diam.: 1.2mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

178 Miniscule annular (slightly opaque) yellow bead. Complete. Glass. D: 3.2mm, H: 2.2mm, Perforation diameter: 0.9mm. Field 163C, Grave 103, Context 12900, RF11256. Figure 3.62.

179 Miniscule annular opaque yellow bead. Complete. Glass. Diam.: 2.9mm, H: 1.9mm, Perforation diam.: 1.1mm. Field 163C, Grave 103, Context 12900AA, RF12855. Figure 3.62.

180 Miniscule annular opaque yellow bead. Complete. Glass. Diam.: 3.3mm, H: 2.1mm, Perforation diam.: 1.3mm. Field 163C, Grave 103, Context 12900AA, RF12855. Not illustrated.

Rectangular

181 Rectangular translucent blue bead. Complete. Glass. L: 3.5mm, W: 3.2mm, H: 4.1mm, Perforation diam.: 0.8mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

182 Rectangular translucent blue bead. Complete. Glass. L: 3.4mm, W: 3.1mm, H: 5.5mm, Perforation diam.: 0.8mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

183 Rectangular translucent blue bead. Complete. Glass. L: 3.3mm, W: 3.1mm, H: 4.8mm, Perforation diam.: 0.8mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

184 Rectangular translucent blue bead. Complete. Glass. L: 2.7mm, W: 3.4mm, H: 4.5mm, Perforation diam.: 0.6mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

185 Rectangular translucent blue bead. Complete. Glass. L: 2.4mm, W: 3.2mm, H: 3.4mm, Perforation diam.: 1.1mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

186 Translucent blue rectangular bead. Complete. Glass. L: 3.1mm, W: 3.3mm, H: 4.5mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.101. Figure 5.19.

Beads of other materials

Faience

187 Turquoise-blue melon bead. Complete. Wear visible on perforation ends. Faience. Diam.: 13.9mm, H: 12.4mm, Perforation diam.: 5.2–5.3mm. Field 163C, Grave 221, Context 13113, RF11398.3. Figure 3.158.

Jet

Annular/globular

188 Globular bead, but had one flat side. Complete. Jet. Diam.: 8.7mm, H: 7.4mm, Perforation diam.: 2.7mm. Field 163C, Grave 180, Context 12734, RF10471.2. Figure 3.115.

189 Globular bead with one flat side and conical perforation. Complete. Jet. Diam.: 8.0mm, H: 6.4mm, Perforation diam.: 3.0–3.1mm. Field 163C, Grave 180, Context 12734, RF10471.2. Figure 3.115.

190 Globular bead with one flat side and conical perforation. Complete. Jet. Diam.: 9.3mm, H: 6.7mm, Perforation diam.: 2.6–2.8mm. Field 163C, Grave 180, Context 12734, RF10471.2. Figure 3.115.

191 Annular bead, that was likely originally from a segmented bead. Jet. Diam.: 4.9mm, H: 2.5mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.40. Figure 5.19.

Barrel

192 Barrel shaped bead, that was likely originally from a segmented bead. Jet. Diam.: 5.4mm, H: 4.6mm, Perforation diam.: 1.4mm. Field 210, Grave 10827, Context 10832, RF9003.77. Figure 5.19.

Biconical

193 Smooth biconical bead, missing fragment. About 90% complete. Jet. Diam.: 4.8mm, H: 9.1mm, Perforation diam.: 2.4mm. Field 210, Grave 10827, Context 10832, RF9003.17. Figure 5.19.

Cylindrical

194 Cylindrical bead with conical perforation. Complete. Jet. Diam.: 10.5mm, H: 6.7mm, Perforation diam.: 1.3–3.1mm. Field 163C, Grave 180, Context 12734, RF10471.2. Figure 3.115.

195 Cylindrical bead with off-centre perforation. Complete. Jet. Diam.: 10.1mm, H: 8.6mm, Perforation diam.: 2.6–2.7mm. Field 163C, Grave 180, Context 12734, RF10471.2. Figure 3.115.

196 Large cylinder bead. Complete. Jet. Diam.: 8.8mm, H: 7.0mm, Perforation diam.: 2.9mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

197 Long decorated cylinder made up of three segments: closely spaced circumferential lines, smooth bicone, closely spaced circumferential lines. One end was slightly broken, approximately 80% remained. Jet. Diam.: 4.9mm, H: 20.9mm, Perforation diam.: 1.6mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

198 Cylindrical bead with incised decorative lines. Complete. Jet. Diam.: 5.4mm, H: 20.9mm, Perforation diam.: 2.2mm. Field 210, Grave 10827, Context 10832, RF9003.18. Figure 5.19.

199 Cylindrical bead with incised decorative lines. Complete. Jet. Diam.: 4.0mm, H: 11.5mm, Perforation diam.: 1.8mm. Field 210, Grave 10827, Context 10832, RF9003.33. Figure 5.19.

200 Short cylindrical bead. Complete. Jet. Diam.: 4.7mm, H: 3.0mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.62. Figure 5.19.

201 Short cylindrical bead with area of fracturing at one end, so was probably originally a part of a segmented bead. Jet. Diam.: 5.2mm, H: 4.4mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.10. Figure 5.19.

Double perforated spacer

202 Double perforated half circle spacer bead with decoration along the curved edge. Complete. Jet. L: 24.0mm, W: 8.9mm, H: 5.9mm, Perforation diam.: 3.4mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

203 Double perforated half circle spacer bead with decoration along the curved edge. Broken; approximately 75% remains. Jet. L: 16.2mm, W: 11.6mm, H: 3.4mm, Perforation diam.: 1.8mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

204 Double perforated half circle spacer bead with decoration along the curved edge. Complete. Jet. L: 24.4mm, W: 9.1mm, H: 5.4mm, Perforation diam.: 3.5mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

205 Double perforated half circle spacer bead with decoration along the curved edge. Near complete. Jet. Remaining portion measured L: 13.4mm, W: 11.6mm, Th: 3.5mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

Facetted

206 Long square-sectioned rectangular bead with facets. Complete. Jet. L: 6.8mm, W: 7.7mm, H: 21.7mm, Perforation diam.: 2.6mm. Field 210, Grave 10827, Context 10832, RF9003.8. Figure 5.19.

207 Long square-sectioned rectangular bead with facets. Complete. Jet. L: 6.6mm, W: 7.0mm, H: 25.5mm, Perforation diam.: 2.8mm. Field 210, Grave 10827, Context 10832, RF9003.51. Figure 5.19.

Segmented

208 Bead with two segments. Complete. Jet. Diam.: 5.1mm, H: 5.5mm, Perforation diam.: 1.7mm. Field 163C, Grave 235, Context 13273, RF12856. Figure 3.165.

209 Bead with two segments. Complete. Jet. Diam.: 5.1mm, H: 4.7mm, Perforation diam.: 1.5mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

210 Bead with three segments. Complete. Jet. Diam.: 4.3mm, H: 8.9mm, Perforation diam.: 2.3mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

211 Bead with three segments. Complete. Jet. Diam.: 5.6mm, H: 9.9mm, Perforation diam.: 2.9mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

212 Bead with three segments. Complete. Jet. Diam.: 5.3mm, H: 7.8mm, Perforation diam.: 2.8mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

213 Bead with three segments. Complete. Jet. Diam.: 4.3mm, H: 7.5mm, Perforation diam.: 2.3mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

214 Bead with three segments. Complete. Jet. Diam.: 4.1mm, H: 8.1mm, Perforation diam.: 2.0mm. Field 163C, Grave 235, Context 13273, RF11890. Figure

3.165.

215 Bead with three segments. Complete. Jet. Diam.: 4.7mm, H: 7.9mm, Perforation diam.: 2.0mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

216 Bead with four segments. Complete. Jet. Diam: 3.7mm, H: 10.6mm, Perforation diam.: 2.2mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

217 Bead with four segments. Complete. Jet. Diam: 4.7mm, H: 10.4mm, Perforation diam.: 2.6mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

218 Bead with four segments. Complete. Jet. Diam.: 4.0mm, H: 10.5mm, Perforation diam.: 2.2mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

219 Bead with four segments. Complete. Jet. Diam.: 4.6mm, H: 11.0mm, Perforation diam.: 2.2mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

220 Bead with five segments. Complete. Jet. Diam.: 3.7mm, H: 9.6mm, Perforation diam.: 2.0mm. Field 163C, Grave 235, Context 13273, RF11890. Figure 3.165.

221 Triple segmented bead. Complete. Jet. Diam.: 5.1mm, H: 12.0mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.1. Figure 5.19.

222 Double segmented bead. Complete. Jet. Diam.: 4.4mm, H: 7.0mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.2. Figure 5.19.

223 Double segmented bead. Complete. Jet. Diam.: 3.2mm, H: 5.4mm, Perforation diam.: 1.0mm. Field 210, Grave 10827, Context 10832, RF9003.3. Figure 5.19.

224 Double segmented bead. Complete. Jet. Diam.: 2.9mm, H: 5.3mm, Perforation diam.: 1.0mm. Field 210, Grave 10827, Context 10832, RF9003.4. Figure 5.19.

225 Triple segmented bead. Complete. Jet. Diam.: 5.2mm, H: 10.9mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.5. Figure 5.19.

226 Triple segmented bead. Complete. Jet. Diam.: 3.8mm, H: 7.4mm, Perforation diam.: 1.3mm. Field 210, Grave 10827, Context 10832, RF9003.6. Figure 5.19.

227 Double segmented bead. Complete. Jet. Diam.: 4.7mm, H: 5.7mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.7. Figure 5.19.

228 Triple segmented bead. Complete. Jet. Diam: 3.0mm, H: 6.6mm, Perforation diam.: 1.1mm. Field 210, Grave 10827, Context 10832, RF9003.11. Figure 5.19.

229 Triple segmented bead. Complete. Jet. Diam: 4.8mm, H: 10.2mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.12. Figure 5.19.

230 Double segmented bead. Fracturing at both perforation ends suggests originally larger. Jet. Diam.: 5.2mm, H: 6.2mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.13. Figure 5.19.

231 Double segmented bead. Complete. Jet. Diam.: 2.5mm, H: 3.4mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.14. Figure 5.19.

232 Double segmented bead. Complete. Jet. Diam.: 3.2mm, H: 4.6mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.15. Figure 5.19.

233 Double segmented bead. Complete. Jet. Diam.: 4.9mm, H: 5.1mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.19. Figure 5.19.

234 Double segmented bead. Complete. Jet. Diam.: 5.4mm, H: 5.4mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003. 21. Figure 5.19.

235 Triple segmented bead. Complete. Jet. Diam.: 4.9mm, H: 10.3mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003.22. Figure 5.19.

236 Double segmented bead. Complete. Jet. Diam.: 4.1mm, H: 6.5mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003.24. Figure 5.19.

237 Double segmented bead, but one of the sections was sawn through. Probably originally larger. Jet. Diam.: 5.3mm, H: 5.5mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.25. Figure 5.19.

238 Double segmented bead. Complete. Jet. Diam.: 4.7mm, H: 7.1mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003.26. Figure 5.19.

239 Double segmented bead with slightly broken end. About 90% complete. Jet. Diam.: 3.9mm, H:

6.2mm, Perforation diam.: 1.4mm. Field 210, Grave 10827, Context 10832, RF9003.27. Figure 5.19.

240 Double segmented bead. Complete. Jet. Diam.: 2.7mm, H: 4.6mm, Perforation diam.: 0.8mm. Field 210, Grave 10827, Context 10832, RF9003.29. Figure 5.19.

241 Double segmented bead. Complete. Jet. Diam.: 2.7mm, H: 3.9mm, Perforation diam.: 1.4mm. Field 210, Grave 10827, Context 10832, RF9003.30. Figure 5.19.

242 Double segmented bead. Complete. Jet. Diam.: 5.2mm, H: 5.9mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.31. Figure 5.19.

243 Triple segmented bead. Complete. Jet. Diam.: 4.3mm, H: 8.8mm, Perforation diam.: 2.4mm. Field 210, Grave 10827, Context 10832, RF9003.32. Figure 5.19.

244 Double segmented bead. Complete. Jet. Diam.: 4.0mm, H: 6.2mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.34. Figure 5.19.

245 Double segmented bead. Roughly sawn perforation end. Jet. Diam.: 4.8mm, H: 5.3mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.35. Figure 5.19.

246 Double segmented bead with sawn end. Jet. Diam.: 5.3mm, H: 4.6mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.36. Figure 5.19.

247 Triple segmented bead. Complete. Jet. Diam.: 2.7mm, H: 6.5mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.38. Figure 5.19.

248 Double segmented bead. Complete. Jet. Diam.: 4.4mm, H: 7.2mm, Perforation diam.: 2.1mm. Field 210, Grave 10827, Context 10832, RF9003.39. Figure 5.19.

249 Triple segmented bead. Complete. Jet. Diam.: 4.0mm, H: 9.3mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.41. Figure 5.19.

250 Double segmented bead. Complete. Jet. Diam.: 5.1mm, H: 6.0mm, Perforation diam.: 2.1mm. Field 210, Grave 10827, Context 10832, RF9003.42. Figure 5.19.

251 Cylindrical bead with incised circumferential lines forming two segments. Complete. Jet. Diam.: 5.3mm, H: 8.2mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.43. Figure 5.19.

252 Double segmented bead. Complete. Jet. Diam.: 4.7mm, H: 7.4mm, Perforation diam.: 2.6mm. Field 210, Grave 10827, Context 10832, RF9003.44. Figure 5.19.

253 Double segmented bead. Complete. Jet. Diam.: 5.6mm, H: 8.4mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.45. Figure 5.19.

254 Segmented bead with four sections. Complete. Jet. Diam/: 4.7mm, H: 12.7mm, Perforation diam.: 2.7mm. Field 210, Grave 10827, Context 10832, RF9003.46. Figure 5.19.

255 Triple segmented bead with sawn end. Jet. Diam.: 5.1mm, H: 8.4mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.47. Figure 5.19.

256 Triple segmented bead. Complete. Jet. Diam.: 5.1mm, H: 12.4mm, Perforation diam.: 2.1mm. Field 210, Grave 10827, Context 10832, RF9003.48. Figure 5.19.

257 Segmented bead with four sections with a slight taper. Complete. Jet. Diam.: 3.9–4.3mm, H: 10.8mm, Perforation diam.: 2.3mm. Field 210, Grave 10827, Context 10832, RF9003.49. Figure 5.19.

258 Double segmented bead. Complete. Jet. Diam.: 5.6mm, H: 8.6mm, Perforation diam.: 2.4mm. Field 210, Grave 10827, Context 10832, RF9003.52. Figure 5.19.

259 Double segmented bead. Complete. Jet. Diam.: 3.5mm, H: 5.0mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.54. Figure 5.19.

260 Triple segmented bead. Complete. Complete. Jet. Diam.: 5.4mm, H: 13.0mm, Perforation diam.: 2.8mm. Field 210, Grave 10827, Context 10832, RF9003.55. Figure 5.19.

261 Double segmented bead. Complete. Jet. Diam.: 4.2mm, H: 5.7mm, Perforation diam.: 2.2mm. Field 210, Grave 10827, Context 10832, RF9003.56. Figure 5.19.

262 Double segmented bead. Complete. Jet. Diam.: 3.1mm, H: 5.3mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.57. Figure 5.19.

263 Double segmented bead. Complete. Jet. Diam.: 2.5mm, H: 3.6mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.58. Figure 5.19.

264 Double segmented bead. Complete. Jet. Diam.: 2.7mm, H: 3.8mm, Perforation diam.: 1.1mm. Field 210, Grave 10827, Context 10832, RF9003.59.

Figure 5.19.

265 Triple segmented bead. Complete. Jet. Diam.: 3.0mm, H: 6.4mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.61. Figure 5.19.

266 Segmented bead with four sections made from incised lines. Complete. Jet. Diam.: 9.2mm, H: 12.9mm, Perforation diam.: 2.1mm. Field 210, Grave 10827, Context 10832, RF9003.63. Figure 5.19.

267 Double segmented bead. Complete. Jet. Diam.: 4.8mm, H: 7.2mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.64. Figure 5.19.

268 Triple segmented bead with part of a segment cut in half. Jet. Diam.: 3.5mm, H: 7.7mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.65. Figure 5.19.

269 Double segmented bead. Complete. Jet. Diam.: 4.8mm, H: 8.0mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.66. Figure 5.19.

270 Double segmented bead. Complete. Jet. Diam.: 5.0mm, H: 7.8mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.67. Figure 5.19.

271 Triple segmented bead. Complete. Jet. Diam.: 3.9mm, H; 9.0mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.68. Figure 5.19.

272 Triple segmented bead. Complete. Jet. Diam.: 4.5mm, H: 11.2mm, Perforation diam.: 2.4mm. Field 210, Grave 10827, Context 10832, RF9003.69. Figure 5.19.

273 Segmented bead with four sections. Complete. Jet. Diam.: 4.9mm, H: 12.6mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.70. Figure 5.19.

274 Triple segmented bead. Complete. Jet. Diam.: 4.3mm, H: 10.8mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.71. Figure 5.19.

275 Double segmented bead with partial remains of a third segment. Jet. Diam.: 5.4mm, H: 8.3mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.72. Figure 5.19.

276 Double segmented bead. Complete. Jet. Diam.: 5.7mm, H: 6.2mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.73. Figure 5.19.

277 Double segmented bead, but second segment was sawn through. Jet. Diam.: 2.5mm, H: 4.9mm, Perforation diam.: 1.3mm. Field 210, Grave 10827, Context 10832, RF9003.74. Figure 5.19.

278 Double segmented bead. Complete. Jet. Diam.: 2.9mm, H: 4.2mm, Perforation diam.: 1.3mm. Field 210, Grave 10827, Context 10832, RF9003.75. Figure 5.19.

279 Triple segmented bead. Complete. Jet. Diam.: 4.6mm, H: 9.4mm, Perforation diam.: 1.8mm. Field 210, Grave 10827, Context 10832, RF9003.76. Figure 5.19.

280 Double segmented bead. Complete. Jet. Diam.: 4.6mm, H: 6.7mm, Perforation diam.: 2.2mm. Field 210, Grave 10827, Context 10832, RF9003.78. Figure 5.19.

281 Double segmented bead. Complete. Jet. Diam.: 4.4mm, H: 6.1mm, Perforation diam.: 2.4mm. Field 210, Grave 10827, Context 10832, RF9003.79. Figure 5.19.

282 Double segmented bead. Complete. Jet. Diam.: 2.9mm, H: 3.5mm, Perforation diam.: 1.1mm. Field 210, Grave 10827, Context 10832, RF9003.80. Figure 5.19.

283 Double segmented bead. Complete. Jet. Diam.: 2.8mm, H: 4.8mm, Perforation diam.: 1.0mm. Field 210, Grave 10827, Context 10832, RF9003.81. Figure 5.19.

284 Double segmented bead. Complete. Jet. Diam.: 5.0mm, H: 8.8mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.82. Figure 5.19.

285 Tapered double segmented bead. Complete. Jet. Diam.: 4.6–5.0mm, H: 8.6mm, Perforation diam.: 2.2mm. Field 210, Grave 10827, Context 10832, RF9003.83. Figure 5.19.

286 Triple segmented bead. Complete. Jet. Diam.: 3.9mm, H: 7.2mm, Perforation diam.: 1.6mm. Field 210, Grave 10827, Context 10832, RF9003.84. Figure 5.19.

287 Double segmented bead. Complete. Jet. Diam.: 5.2mm, H: 6.4mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.85. Figure 5.19.

288 Double segmented bead, but one segment was broken. Jet. Diam.: 4.9mm, H: 7.8mm, Perforation diam.: 1.7mm. Field 210, Grave 10827, Context 10832, RF9003.87. Figure 5.19.

289 Double segmented bead. Complete. Jet. Diam.: 3.3mm, H: 5.0mm, Perforation diam.: 1.8mm. Field 210, Grave 10827, Context 10832, RF9003.89. Figure 5.19.

290 Triple segmented bead. Complete. Jet. Diam.:

2.6mm, H: 6.5mm, Perforation diam.: 1.2mm. Field 210, Grave 10827, Context 10832, RF9003.91. Figure 5.19.

291 Triple segmented bead. Complete. Jet. Diam.: 4.6mm, H: 10.4mm, Perforation diam.: 1.8mm. Field 210, Grave 10827, Context 10832, RF9003.92. Figure 5.19.

292 Double segmented bead with partial remains of a third segment. Jet. Diam.: 5.0mm, H: 8.3mm, Perforation diam.: 2.0mm. Field 210, Grave 10827, Context 10832, RF9003.93. Figure 5.19.

293 Double segmented bead. Complete. Jet. Diam.: 4.1mm, H: 6.6mm, Perforation diam.: 1.9mm. Field 210, Grave 10827, Context 10832, RF9003.94. Figure 5.19.

294 Double segmented bead. Complete. Jet. Diam.: 2.5mm, H: 3.4mm, Perforation diam.: 1.1mm. Field 210, Grave 10827, Context 10832, RF9003.97. Figure 5.19.

295 Double segmented bead. Complete. Jet. Diam.: 4.7mm, H: 7.9mm, Perforation diam.: 1.5mm. Field 210, Grave 10827, Context 10832, RF9003.98. Figure 5.19.

296 Double segmented bead. Complete. Jet. Diam.: 5.4mm, H: 8.1mm, Perforation diam.: 1.4mm. Field 210, Grave 10827, Context 10832, RF9003.99. Figure 5.19.

Unknown

297 Six fragments that probably made up one bead of unclear form. Jet. Field 163C, Grave 180, Context 12734, RF10471.2. Not illustrated.

Copper alloy

Annular

298 Several fragments of copper-alloy that probably made up a bead. Field 163C, Grave 180, Context 12734, RF10471.4. Figure 3.115.

Barrel

299 Barrel shaped bead. Nearly complete. Copper alloy. Diam.: 12.5mm, H: 10.4mm, Perforation diam.: 8.2mm. Field 163C, Grave 203, Context 13004, RF11319. Figure 3.142.

300 Barrel shaped bead. Complete, but distorted. H: 10.5mm. Field 163C, Grave 203, Context 13004, RF11320. Figure 3.142.

301 Barrel shaped bead. Complete. Copper alloy. Diam.: 12.8mm, H: 10.7mm, Perforation diam.: 8.3–8.5mm. Field 163C, Grave 203, Context 13004, RF11321. Figure 3.142.

Unknown

302 Originally a bead, but now many fragments. Copper alloy. H: 6.8mm. Field 163C, Grave 221, Context 13113, RF11398.4. Not illustrated.

303 Originally a bead, but now many fragments. Copper alloy. Field 163C, Grave 221, Context 13113, RF11398.2. Not illustrated.

Buckle

304 Copper-alloy buckle, missing its tongue, with buckle-plate decorated with repoussé dots. Plate L: 26mm, W: 22mm; Loop L: 30mm. Second half of the 4th to early 5th century. Field 178, Grave 20476, Context 20478, RF7603. Figure 4.50.

FOOTWEAR

Alexandra Croom

Hobnails were used on shoes, boots and sandals. For the sake of simplicity, the term 'shoe' is used here for all categories, since the lack of the leather uppers means the type of footwear represented cannot be identified. Hobnails were used on outdoor footwear used by men, women and children, although it is likely shoes worn purely indoors did not have hobnails, as they had no grip on hard surfaces, could damage soft surfaces and could be uncomfortable to wear. Some of the graves are likely to have included non-nailed shoes that have not survived archaeologically.

The hobnails had conical heads that ranged in diameter from 8mm to 16mm, although they generally appeared to group around either 8–10mm in diameter or 10–13mm in diameter, with only occasional larger examples. The larger nails, with heads c.16mm in diameter, tended to have bent shanks rather than the hooked shanks of the smaller nails and may perhaps be replacements. The heads were gradually ground down through use and became flattened, although the examination of boots worn by re-enactors shows that hardly-worn hobnails can survive next to badly worn examples, particularly in the area of the insole where less pressure is exerted (personal observation of footwear belonging to the group Cohors Quinta Gallorum). Worn or lost hobnails can also be replaced by new hobnails, again resulting in examples with both new conical and worn rounded heads in the same sole. Despite this, the proportion of new and ground-down hobnails can sometimes provide information about the condition of the shoe when deposited in the grave.

Hobnails were hammered through several layers of leather onto a hard surface, which bent the very tip of the shank to attach it. There were usually a number of layers of leather, including the sole, inner sole, well-fillers and the margins of the uppers. The length of the shank from under the head to the bent tip provides an idea of the thickness of the sole of the shoe, although the tip will

not reach the upper surface of the inner sole (to make the footwear comfortable to wear). This measurement is only approximate, but it can give an idea of how sturdy the shoe might have been.

The number of hobnails on each pair of shoes will also vary according to their size and the nailing pattern used. However, the hobnails around the edge of the sole that attach it to the rest of the shoe are usually close-set to stop the leather gaping (especially when wet) and the larger the sole area to be filled with additional lines or patterns the more hobnails are required, so generally the more hobnails the larger the shoe. At Lankhills, the average number of hobnails in male or probable male graves was 123, while this was 81 hobnails in female or probable female graves (Powell 2010a, table 4.35). At Bainesse, the evidence suggests that graves producing over 100 hobnails will usually be of males, as is the case with Graves **7**, **17**, **22** and **86**.

Shoe plates

Shoe plates (or cleats) were occasionally used on Roman shoes, but they were not a standard element and may have been used only by those people whose gait meant that there was noticeable differential wear on their soles. There are two examples from the Bainesse Cemetery. The best example comes from Grave **77** (unsexed, 14–16 years), which was a thin, rectangular strip that curved at one end, presumably following the curve of the heel (Cat. no. 318; Fig. 3.48). It had a projecting shank at one end, like that of a hobnail, and nothing on the other (heel) end; both ends tapered. The strip was added to the sole after the hobnails, as its projecting shank lies over the top of the shank of a nearby hobnail. There were hobnails on either side of the bar, so it was set in slightly from the edge of the sole, on the inner side of the shoe. The companion piece from the other foot (Cat. no. 318) was made in the same way, but in this case the shank for attachment was at the curved 'heel' end. The plates may have been added to prevent excessive wear on the inside edge of the soles due to the feet pronating excessively (ankle turning inwards when walking).

Two curved bars (Cat. no. 334) were found with the hobnails in Grave **239** (female, 36–45), with a small upright projection on the end of one and tapered terminals on both. Their exact function is unclear. They were found in the location of the right foot and towards the toes of the skeleton, but the two bars were laid out in a straight line and might represent plates from the heels of two shoes laid out side by side rather than being worn at the time of burial.

Nailed footwear in the graves

Nailed shoes were found in 35 graves and were worn by men, women and juveniles. Another 21 graves contained only small numbers of hobnails (fewer than 20), which was probably the result of disturbance, poor preservation or accidental inclusion. Due to the poor bone preservation, it was not always possible to tell if the shoes were being worn, but from the surviving examples it was more common to wear them than not, or at least have shoes placed over or under the feet.

At Bainesse, there were 29 graves with hobnailed shoes and a further 14 where hobnails were found, but the shoes may have been disturbed. There were four instances where shoes were not worn, in some cases because they were the second pair of shoes deposited in the grave. In Grave **81** (?adult) and Grave **219** (juvenile), both pairs were placed towards one end of the coffin, but as bone preservation was extremely poor it is unclear if one pair was being worn. In Grave **229** (unsexed juvenile) a pair of shoes were placed side-by-side in the corner of the coffin beside the ankles, while a very small cluster of hobnails in the area of the (poorly preserved) feet might be the remains of worn shoes. In the final example (Grave **61**; unsexed adult), the shoes may have been placed under the right leg rather than beside it, but once again the bones did not survive.

The shoes in Grave **22** (male, 26–35) were sturdy items, with over 110 hobnails on each foot, including a number of larger hobnails and a sole thickness of c.12mm. The shoes from Grave **17** (male, 26–35) had a high proportion of very flat heads and were clearly well-worn at the time of burial. It was noticeable that these also had a thin material thickness for the soles (8–10mm). In contrast, the high number of conical heads on the hobnails in Grave **8** (unsexed adult) suggested a relatively little worn pair of shoes.

Nine graves from *Cataractonium* contained hobnails, five of which produced fewer than ten hobnails. The shoes from Grave **20621** (7–12 years) were placed outside the coffin towards the foot end. As they were outside the coffin it is possible that they were not the personal possessions of the deceased but may have been added by a mourner during the funeral in an act of symbolic or practical significance. It might be significant that this was the grave of a juvenile. The nailed shoes in the other three graves were worn by the individuals, all of which were adults (Graves **20159**, unsexed; Grave **20474**, ?female; and Grave **20960**, ?male). The shoes in Grave **20960** were robust (over 176 hobnails, sole thickness of c.12mm, four layers of leather), which supports the identification of the skeleton as male. They included a number of little used hobnails, with 8mm tall conical heads.

Two graves at Scurragh House also contained hobnailed

shoes, although it was unclear if they were worn or not. The hobnails in both Grave **10825** (unsexed adult) and Grave **11808** (unsexed, 18–25 years) were small (c.8mm in diameter). The shoes in Grave **11808** had a material thickness of c.5mm, suggesting they were fine and quite delicate. The bone was poorly preserved, but the presence of fine shoes and an anklet suggested this was the grave of a woman. A third grave of an unsexed individual (Grave **11813**; 26–35 years), may have also included shoes with similar small hobnails, although poor preservation means that only two survived.

Catalogue

Shoes

305 Nailed shoes with a minimum of 97 hobnails. Diam: 10–13mm, MTh: 9–11mm. Field 163C, Grave 6, Context 13341, RF11941, RF11961, RF11962. Not illustrated.

306 Nailed shoes with a minimum of 133 hobnails. Diam: 9–10mm. Field 163C, Grave 7, Context 13337, RF11972, RF11973, RF11957, RF13610. Not illustrated.

307 Nailed shoes with a minimum of 45 hobnails found in two patches. Diam: 10mm, MTh: c.11mm. Field 163C, Grave 8, Context 13282, RF11886. Not illustrated.

308 Nailed shoes with a minimum of 96 hobnails and a shoe plate on the left foot. Diam: 8–10mm, MTh: 8–10mm. Field 163C, Grave 10, Context 13264, RF11917, RF11918. Not illustrated.

309 Nailed shoes with a minimum of 50 hobnails. Diam: 10–11mm, MTh: 11mm. Field 163C, Grave 16, Context 13184 (and samples AB, AH, AI), RF13608. Not illustrated.

310 Nailed shoes with a minimum of 193 hobnails. Diam: 9–10mm, MTh: 8–10mm. Field 163C, Grave 17, Context 13154 (and samples AA, AB, AF, AG), RF11875, RF11876, RF13606. Not illustrated.

311 Nailed shoes with a minimum of 112 hobnails on the left foot and 139 on the right. Diam: 9–10mm, MTh: c.12mm. Field 163C, Grave 22, Context 13267, RF11884, RF11885. Not illustrated.

312 Nailed shoe(s) with a minimum of 23 hobnails. Diam: 10–11mm, MTh: c.12mm. Field 163C, Grave 26, Context 13158 (and samples AA, AD), RF11764, RF11765, RF11787, RF11839. Not illustrated.

313 Nailed shoe(s) with a minimum of 21 hobnails. Diam: 12–15mm. Field 163C, Grave 35, Context 12545, RF709, RF710, RF711, RF712, RF716. Not illustrated.

314 Nailed shoe(s) with a minimum of 24 hobnails. Diam: 9–10mm, MTh: c.8mm. Field 163C, Grave 44, Context 12770, RF11124, RF11125. Not illustrated.

315 Nailed shoe(s) with a minimum of 24 hobnails. Diam: 9mm. Field 163C, Grave 56, Context 12516, RF702. Not illustrated.

316 Nailed shoes with a minimum of 61 hobnails. Diam: 9 and 12mm (two size groups). Field 163C, Grave 61, Context 12654 (and samples AA, AE), RF10306, RF10307, RF13699. Not illustrated.

317 Nailed shoes with a minimum of 73 hobnails. Diam: 9 and 12mm (two size groups), MTh: c.7mm. Field 163C, Grave 64, Context 12805 (and sample AB), RF11201. Not illustrated.

318 Nailed shoes with a minimum of 112 hobnails and two shoe plates. Diam: 9–10mm and 15mm, MTh: c.8mm. Plate L: 75mm, W: 5mm, Th: 6mm, MTh: c.8mm. Field 163C, Grave 77, Context 13024 (and samples AC, AD, AI), RF11366, RF11367. Figure 3.48.

319 Nailed shoes with a minimum of 73 hobnails. Diam: 11–12mm, MTh: 12mm. Field 163C, Grave 81, Context 12556, RF766, RF767. Not illustrated.

320 Nailed shoes with a minimum of 45 hobnails. Diam: 9–10mm, MTh: 10mm. Field 163C, Grave 81, Context 12556, RF768, RF769, RF13595. Not illustrated.

321 Nailed shoes with a minimum of 114 hobnails. Diam: 9–10mm, MTh: c.12mm. Field 163C, Grave 86, Context 12747, RF10529, RF10530, RF13601. Not illustrated.

322 Nailed shoes with a minimum of 111 hobnails. Diam: 10–11mm, MTh: 8–10mm. Field 163C, Grave 106, Context 12887 (and sample AB), RF11230, RF11232, RF13687. Not illustrated.

323 Nailed shoes with a minimum of 59 hobnails. Diam: 9 and 12 mm (two size groups). Field 163C, Grave 119, Context 12666 (and samples AA, AF, AG, AH), RF10373. Not illustrated.

324 Nailed shoes with a minimum of 76 hobnails. Diam: 10–12mm. Field 163C, Grave 120, Context 12620 (and samples AF, AG), RF10286, RF10287, RF13689. Not illustrated.

325 Nailed shoes with a minimum of 52 hobnails. Diam: 10–12mm, MTh: 10mm. Field 163C, Grave 125, Context 12528AA, Context 12529 (and sample AA), RF700. Not illustrated.

326 Nailed shoes with a minimum of 65 hobnails. Diam: 11–12mm. Field 163C, Grave 146, Context 12914, RF11229. Not illustrated.

327 Nailed shoe (single) with a minimum of 67 hobnails. Diam: 10mm. Field 163C, Grave 149, Context 12530, RF706, RF707, RF708. Not illustrated.

328 Disturbed nailed shoe with 25 surviving

hobnails. Diam: 9–10mm. Field 163C, Grave 168, Context 12705, RF10489. Not illustrated.

329 Nailed shoe(s) with a minimum of 21 hobnails. Diam: 11–12mm, MTh: c.13mm. Field 163C, Grave 183, Context 12717, RF10434. Not illustrated.

330 Nailed shoes with a minimum of 106 hobnails. Diam: 9mm. Field 163C, Grave 202, Context 12681AA, Context 12712, RF10459, RF10460, RF13692. Not illustrated.

331 Nailed shoes with a minimum of 40 hobnails. Diam: 12mm. Field 163C, Grave 219, Context 13195, RF11809, RF11820, RF11823, RF11837. Not illustrated.

332 Nailed shoe(s) with a minimum of 35 hobnails. Diam: 12mm. Field 163C, Grave 219, Context 13195, RF11838. Not illustrated.

333 Nailed shoes with a minimum of 95 hobnails. A group of seven hobnails (RF11714) may have been the remains of a second, worn, pair. Diam: 10–11mm, MTh: 8–11mm. Field 163C, Grave 229, Context 13078 (and sample AD), RF11627, RF11628, RF11714. Not illustrated.

334 Nailed shoes with a minimum of 39 hobnails and two shoe plates. Diam: 9mm, MTh: c.9mm. Plate L: 77mm, W: 4mm, Th: 6mm. Field 163C, Grave 239, Context 13136 (and from sample AF), RF11721. Figure 3.170.

335 Nailed shoes with a minimum of 39 hobnails. Diam: 8mm. Field 209, Grave 10825, Context 10826AC, RF13633. Not illustrated.

336 Nailed shoes with a minimum of 60 hobnails. Diam: 7–10mm, MTh: c.5mm. Field 209, Grave 11808, Context 11814–11816 (samples AA), RF13632, RF13636, RF13642. Figure 5.12.

337 Nailed shoe(s) with a minimum of 22 hobnails. Diam: 9mm, MTh: c.9mm. Field 159A, Grave 13420, Context 13438 (and sample AC), RF11982, RF13680. Not illustrated.

338 Hobnailed shoes with a minimum of 70 hobnails. Diam: 11–13mm. Field 178, Grave 20159, Context 20158AA, RF7449–7452, RF7454–7455, RF7460–7461, RF7463, RF7465–7472, RF7476, RF7479, RF13647. Not illustrated.

339 Hobnailed shoes with a minimum of 174 hobnails (102 around the left foot, 72 around the right). Diam: 11–12mm, MTh: c.11mm. Field 178, Grave 20474, Context 20479, RF7587, RF7588. Not illustrated.

340 Nailed shoes with a minimum of 33 hobnails. Diam: 12mm. Field 178, Grave 20621, Context 20692, RF7664, RF7676. Not illustrated.

341 Hobnailed shoes with a minimum of 176 hobnails (74 around left and 53 around right foot). Diam: 12mm and 15mm (two size groups), MTh: 12mm. Field 177, Grave 20960, Context 20960, RF7695, RF7696. Not illustrated.

Possible shoes

342 Three hobnails. Diam: 10mm. Field 163C, Grave 40, Context 12810AA, RF13686. Not illustrated.

343 Disturbed nailed shoe with eight surviving hobnails. Diam: 10mm. Field 163C, Grave 74, Context 12505, RF689, RF690, RF691, RF693, RF694, RF696. Not illustrated.

344 Single hobnail. Diam: 9mm. Field 163C, Grave 102, Context 12930, RF11259. Not illustrated.

345 Ten hobnails. Diam: 10mm. Field 163C, Grave 115, Context 12405AA, RF13688. Not illustrated.

346 Fifteen hobnails. Diam: 9mm, MTh: 10mm. Field 163C, Grave 147, Context 12812, RF11153. Not illustrated.

347 Six hobnails. Diam: 12mm. Field 163C, Grave 163, Context 12683AA, RF13691. Not illustrated.

348 Ten hobnails. Diam: 9mm. Field 163C, Grave 165, Context 12711AA, RF13599. Not illustrated.

349 Nailed shoe(s) with 12 surviving hobnails. Diam: 12mm. Field 163C, Grave 181, Context 12867, RF11258. Not illustrated.

350 Six hobnails, possibly from disturbed nailed shoe(s). Diam: 9mm. Field 163C, Grave 186, Context 12653 (and samples AC and AE), RF13597. Not illustrated.

351 Six hobnails, found near feet, so possibly from nailed shoes. Diam: 9mm. Field 163C, Grave 194, Context 12374, RF634. Not illustrated.

352 Single hobnail found inside the iron bracelet. Diam: 9mm. Field 163C, Grave 194, Context 12374, RF643. Not illustrated.

353 Single hobnail. Diam: 10mm. Field 163C, Grave 199, Context 13190, RF13609. Not illustrated.

354 Three hobnails. Diam: 11mm. Field 163C, Grave 208, Context 13112, RF11723. Not illustrated.

355 Three hobnails. Diam: 9mm. Field 163C, Grave 215, Context 13179AA, RF13694. Not illustrated.

356 Single hobnail. Diam: 8mm. Field 163C, Grave 244, Context 12314AA, RF13590. Not illustrated.

357 Two hobnails. Diam: 9mm. Field 209, Grave 11813, Context 11820AA, RF13631. Not illustrated.

358 Two loose hobnails. Diam: 8 and 11mm (two size groups). Field 159A, Grave 13435, Context 13436, RF13680. Not illustrated.

359 Nine hobnails. Diam: 10 and 13mm (two size groups). Field 178, Grave 20340, Context 20341AA, RF13652. Not illustrated.

360 One hobnail. Diam: 8mm. Field 178, Grave 20417, Context 20415AA, RF13716. Not illustrated.

361 One hobnail. Diam: 10mm. Field 178, Grave 20418, Context 201419AA, RF13719. Not illustrated.

362 Two hobnails. Diam: 10mm. Field 178, Grave 20476, Context 20478AA, RF13717. Not illustrated.

363 Four hobnails. Diam: 8 and 11mm (two size groups). Field 178, Grave 20601, Context 20602 (and samples AA and AB), RF13718. Not illustrated.

EQUIPMENT

Alexandra Croom

A very small number of finds that can be considered to be equipment or tools were found in inhumation graves. These are from seven graves across the scheme. There was no clear patterning in terms of the sex of the individuals buried with these articles of equipment, as where it could be determined, there was an equal number in adult female as adult male graves. Most of the graves with equipment in them were adults, but the adolescent in Grave **20476** contained a horse harness strap distributor as part of a special deposit.

Pin

An iron object (Cat. no. 364) found near the skull in Grave **92** (unsexed adult) had a square cross-sectioned shank. It was similar to a nail but had an unusual flattened and expanded head. While it is possible this was an example of the type of nail that could be hammered into wood to leave no head visible, this seems unlikely, given that there were no other nails present in the grave. Two similar pieces came from a mid-4th-century grave of a man at Hollow Banks Farm, where they were found near the head end of the grave but possibly placed outside the coffin (Eckardt *et al*. 2015, fig. 5, nos 528AX and 528AW). A third local example, with a circular cross-sectioned shank, comes from the grave of an adult female at Bainesse (position in the grave unknown; Mould 2002b, fig. 290, no. 60). Although they share characteristics with styli, the square cross-section of the shank means this identification is unlikely. It also seems unlikely that all possible examples of styli from these graves should be very short and plain when the local sites produce numerous examples of much finer, decorated styli (cf. Mould 2002b, fig. 290, nos 59 and 66–9). In the early medieval period, iron pins, even with rectangular cross-sections, were used for fastening cloth (e.g. Green *et al*. 1987, fig. 427, M; Sherlock and Welch 1992, fig. 47, no. 49.3, and cf. fig. 34, no. 7.9) and they may have had a similar function in the Roman period; in the context of a grave the pin could have been used to fasten a shroud. Alternatively, as nail-like iron objects they may have been deliberately included in the graves for ritual reasons (see page 546).

Whetstones and polisher

A broken whetstone in a very fine-grained micaceous sandstone came from the fill of Grave **195** (Cat. no. 365). The rough face of the broken side still had evidence of polishing on the highest points, while the other short end and one long side have very smooth surfaces. Whetstones are not often found as grave goods. Philpott (1991) listed five, including one in a collection of 'workman's' tools from Burbage, Wiltshire, and two that accompanied knives at Lankhills (Clarke 1979, fig. 70, G55, no. 59 and fig. 83, G283, no. 477). The two found in 1866 at Norton, North Yorkshire, seem unlikely to be whetstones, since they were also described as rubbers or pounders (Philpott 1991, 186). The whetstone might just be an accidental inclusion in Grave **195**, as is the case with a triangular-shaped stone (Cat. no. 366) found in the upper backfill of Grave **208**, which displayed evidence of smoothing on the side faces and end and was possibly used as a whetstone or polisher.

Fish-hooks

Two graves at Brompton West (Field 178) produced small copper-alloy hooks that could be fish-hooks, although the distinctive barbed end did not survive in either case. That in Grave **20532** (Cat. no. 368) was very small and delicate and had the characteristic hammered and notched end for attaching the line (Bernal Casasola 2010, 91, fig. 4). The hook in Grave **20340** was more robust (Cat. no. 367), with the end of the wire twisted into a loop for the line attachment. This is not a typical form of attachment for fish-hooks, so this may either be an improvised hook or not a fish-hook at all. Both would be classified as 'very small' (*ibid*., 89) and suitable for small-scale fishing on the local rivers. Although fish-hooks have been found on a number of Romano-British sites, this is the first time one has been found in a grave, and it is of interest that both came from graves of females, one aged 18–25 and the other 26–35. There were no other possessions in either grave and it would be possible to dismiss either one as an accidental inclusion were it not for the presence of the other.

Horse equipment

A plain, circular strap distributor from a horse harness, which was designed to hold two narrow straps at right

angles, was found in Grave **20476** at Brompton West along with a collection of circular objects. Parallels for this type of distributor can be seen used on the bridle of a horse buried in its harness in a 2nd- or 3rd-century wagon burial at Kozármisleny, Hungary (Palágyi 1997, c, d, r in figs 6.69–72).

Metal objects of uncertain function

Grave **20532** at Brompton West had four nails (not catalogued), two on either side of the shoulders, that were not a part of a coffin. One incomplete example had an unusually thick flat head and the other three (55–65mm in length) were gently curved. It is unclear what sort of structure they could come from, and it is possible that were deliberately placed in the grave as a protective measure (see page 546).

The function of a group of nails in Grave **20474** is also not clear. They all came from one small area between the legs of the skeleton, just above the knee. There were two bent nails, both probably less than 50mm long, and the shanks of possibly another three, one with traces of mineralised wood (RF7589, RF7590 and RF7591: not catalogued). Their relative positions make it unlikely they came from a wooden box, but they perhaps came from some other wooden object placed in the grave.

Other inclusions in graves may also be unintentional, such as a fragment of iron in Grave **22** (Cat. no. 370). The triangular cross-section indicated that the latter may have been a piece of a knife blade with the cutting edge slightly turned.

Discussion

The Romans rarely included tools as grave goods; there was a strong preference for personal possessions, such as footwear and jewellery. Philpott's (1991, 186–7, tables A30–1, A33 and A35) study of Roman burial practice showed that, out of the total number of graves analysed, 424 graves contained personal ornaments, 260 had footwear, and only 84 had tools or household items, three-quarters of which were made up of knives and textile-working equipment. The lack of equipment in the graves is therefore not unexpected. The broken whetstone was found in a grave with a lot of stone packing and may be an unintentional inclusion; the pin may have been used to fasten a shroud, and the horse harness was almost certainly included because of its circular shape rather than because of its original function. The two certain items of equipment are the two hooks, which are very unusual to be found as grave goods. As Romans rarely felt the need to bury people with the tools of their trade, it is impossible to be sure that, if these really are both fish-hooks, they were related to the activities of the women buried in the graves.

Catalogue

Pin

364 Iron pin with rectangular cross-section and a flattened, expanded head. L: 56mm+; shank W: 6mm, Th: 5mm; head W: 18mm, Th: 4mm. Field 163C, Grave 92, Context 12453, RF665. Figure 3.58.

Whetstones and polishers

365 Broken whetstone of rectangular cross-section. L: 80mm, W: 25mm, Th: 20mm. Field 163C, Grave 195, Context 12953, RF11306. Figure 3.131.

366 Roughly triangular-shaped whetstone or polisher. L: 78mm, W: 40mm, Th: 26mm. Field 163C, Grave 208, Context 13098, RF11397. Figure 3.147.

Fish-hooks

367 Hook made from circular-sectioned copper-alloy wire. L: 24mm, W: 12mm, Diam: 1.5mm. Field 178, Grave 20340, Context 20340, RF7486. Figure 4.56.

368 Incomplete, very fine copper-alloy fish-hook with a square cross-section. L: 13mm, W: 7mm, Th: 1.5mm. Field 178, Grave 20532, Context 20533, RF7669. Figure 4.52.

Horse equipment

369 Copper-alloy circular strap distributor, with four strap openings. Undecorated. Diam: 37mm, H: 9mm, W of slots: 14mm. Late 2nd to 3rd century. Field 178, Grave 20476, Context 20478, RF7600. Figure 4.50.

Unclear function

370 Short fragment of iron strip, possibly part of a knife blade. L: 34mm, W: 23mm, Th: 4mm. Field 163C, Grave 22, Context 13267, RF11848. Figure 3.19.

371 Roughly finished disc cut from a body sherd of BB1 cooking pot. L: 20mm, W: 18mm, Th: 4mm. Field 163C, Grave 194, Context 12428, RF12845. Figure 3.129.

372 Copper-alloy domed stud with circular cross-sectioned shank. Diam: 10mm, H: 13mm. Field 163C, Grave 194, Context 12374, RF13593. Figure 3.129.

373 Fragment of thin iron sheet in very poor condition. L: 50mm, W: 30mm. Field 163C, Grave 201, Context 12468, RF13594. Not illustrated.

ORGANIC FINDS

Organic finds were extremely limited in burial contexts, with only two examples recovered. This is likely due to the soil and burial conditions. Textile impressions can sometimes be left in the corrosion product of metal objects worn against clothing or shrouds in graves, but across the scheme there was no such evidence.

Club moss string

Margarita Gleba

A short section of string made from two strands of loosely plied club moss was found in Grave **203** (Cat. no. 374). It was found inside a crushed copper-alloy bead (Cat. no. 300) along with two other beads (Cat. nos 299 and 301) and a possible phallic pendant (Cat no. 112). These artefacts were found in a discrete deposit above Grave **203** and it was not clear if they were deposited at a later date. Grave **203** may have been that of a child's burial, although no skeletal remains survived (see Table 3.191). The burial may date to the late 1st to early 3rd century AD, as a radiocarbon date was obtained from Grave **202**, which Grave **203** cut into.

The string was analysed by scanning electron microscope (SEM) and compared with samples in the author's reference collection (see Gleba *et al*. 2017 for full report). It most closely resembled running or staghorn club moss (*Lycopodium clavatum*) and may have derived from either club moss or a similar plant species. The long flexible runners of club moss make it suitable for ready-made 'string' for a variety of purposes and informs us further about the use of natural plant resources during the Roman period in Britain. Although club moss likely grew in continental Europe, its use in the Roman period is not known outside of Britain. Other uses of moss (*Polytrichum commune*) from Roman Britain include a moss cap from *Vindolanda* Roman fort (dated to AD97–103) and an example from Newstead Roman fort (dated to c.AD86).

Leather

Elizabeth M. Foulds

Eight small fragments of leather (Cat. no. 375) were recovered during sample processing (**12966AA**) of Grave **99**. They have not been conserved. The largest fragment measured approximately 17mm x 9mm, but the remaining fragments were about half this size. They were extremely thin, with the largest measuring approximately 0.1mm thick. Two of the smaller fragments may have had intact edges, as if from a strap or thong, but the remaining fragments did not.

It is unusual that these fragments of leather survived, given that the land at Bainesse was not waterlogged, but this may be related to the variable preservation of human remains. It is not clear whether the leather would have originated from an object contained within the coffin, or whether it was part of the backfill. If it originated from within the grave, it could have been from an object of clothing or an accessory, such as a belt, shoes, or a bag.

Catalogue

374 Two Z-twisted strands of possible club moss loosely S-plied found within Cat. no. 300, a copper-alloy bead. L: 17.9mm. Field 163C, Grave 203, Context 13004, RF11324. Figure 3.142.

375 Eight small fragments of leather. Largest measured c.17mm x 9mm, Th: 0.1mm. Field 163C, Grave 99, Context 12966AA, RF14542. Not illustrated.

INHUMATION GRAVE FURNITURE

Alexandra Croom

There was no evidence for any grave furniture in three-quarters of the inhumations across the scheme. It may be that these individuals were not placed in a structure or were buried in coffins that were built without the use of nails. There were three inhumations where the individual had been placed in a stone lined grave using reused architectural stones, six in stone lined graves (including Grave **20621** with both a nailed coffin and stone lined grave), and 55 individuals that had been buried in a nailed coffin. Where age of the inhumed individual could be determined, 43% were non-adults, whereas 57% were adults.

Stone lining

Two graves at Bainesse used fragments of tufa armchair voussoirs in their lining. Grave **237** contained pieces from four and Grave **13420** included fragments of six. In both cases, the rock was very soft and weathered and the pieces were broken or battered. However, where the surfaces survived, the sawn edges were smoothed. The original dimensions of the stones appeared to be in the region of 440mm long and about 290mm wide. On one side was a rectangular notch 75mm wide and 40mm deep. One stone had a semi-circular notch, but this could be the result of weathering or reuse. On the other side was the taller, tapered cut-out, about 160mm tall and 45mm deep. The top end had corner notches, about 50mm tall and up to 65mm deep. Although all the pieces seemed to have the same elements, the dimensions of the different features varied considerably, especially in the profile of the stone and corner notch on the side with the tapered cut-out. The breadth of the stones was also variable, from 60mm thick at the base and 80mm thick at the top to 100mm thick at the base and 130mm at the top. Such variation must have made construction tricky, unless they came from different 'suites' of stones from different sections of the roof or building. Most of the fragments from Grave **13420** had remains of a15mm thick mortar layer on at least one surface.

The voussoirs were used to form a series of solid ribs in barrel-vaulted roofs, with the cut-outs and notches supporting flat slabs between them. The presence of cut-outs at both the top and bottom indicates that the ribs supported upper and lower slabs to create hollow

enclosures. The use of both tapered cut-outs and notches is known from ceramic armchair voussoirs, but these are always symmetrical, with either one or the other used on both sides of the voussoir rather than each type on the same stone (Woodfield and Woodfield 1989, fig. 48; Lancaster 2015, figs 101, 110). There seemed no reason to use both unless the tapered cut-out made laying the flat slabs on that side of the rib easier.

In Britain, the use of armchair voussoirs in bath-houses, stone ones in particular, was generally a military practice (Woodfield and Woodfield 1989, 252). Examples in calcareous tufa are known from Chesters and Great Chesters, and in sandstone from *Vindolanda* and Wallsend (Lancaster 2015; Rushworth and Croom 2016, fig. 21.6, no. 13). They appear to have been used as easy-to-construct kits for small vaults with a span of 3–5m, particularly during the 1st and 2nd centuries (Lancaster 2015, 174). Tufa is found in many areas of Yorkshire, including around the villa at Well, about 19km south of *Cataractonium* (Buckland 1988, 267–8). While deposits large enough to supply suitable quantities for major building work would have been less common, the military were willing to transport stones that suited their building needs some distance.

Therefore, the two graves incorporated reused fragments of tufa armchair voussoirs that were likely to have come from the roof of a military bath-house and may be contemporary in date. Grave **237** had three substantially complete and one incomplete examples, and Grave **13420** had four substantially complete and two incomplete fragments. Two fragments of calcareous tufa voussoirs have previously been recovered from the Catterick Bypass site (site 433; Blagg 2002 fig. 368, nos 30–1, unstratified; no. 30 appears to be part of a tapered cut-out). This is some distance from the cemetery but close to the known location of a bath-house, which could possibly be the source for these examples.

Grave **20621** at Brompton West used one complete and one incomplete sandstone roofing slate at the head of the grave (Cat. nos 386–387). They were rectangular in shape, with an off-centre rectangular nail hole (L: 10mm, W: 8mm). The makers used the bedding planes in the sand to create a smooth upper surface, leaving the lower surface less-well worked and with a large spalling crater created by the nail hole. They are thicker than ceramic roof tiles, with the complete example weighing 19.2kg.

Stone roof slates were used throughout the Roman period on both military and civilian sites and on a range of buildings, for example York colonia (Buckland 1978, fig. 18), Dalton Parlours villa (Clarke 1990, fig. 108) and Binchester Roman fort (Ferris 2010b, table 62). Rectangular roofing slates such as these are not as common as hexagonal slates, which are better at fitting together side-by-side on the roof. The complete tile from Grave **20621** was also unusually large, measuring 790mm long by 630mm wide and 30mm thick. The size of tiles varies from site to site, but slates about 420mm long are more typical, while those from Birdoswald have an average weight of only 9.5kg (Astill 1997, 131). The example from Catterick must have come from a building large enough that tiles of this size would not look out of place and with a structure strong enough to support their weight; a bath-house is one possibility.

A fragment of stone slate has previously been found at Bainesse in an unphased feature and, like the voussoirs, may be reused building material brought in from elsewhere (Bell and Thompson 2002c, fig. 374 no. 11).

Wooden coffins

There were 54 graves that probably contained a nailed coffin.

Construction

Roman coffins usually consisted of six sawn planks of wood that were fastened together with iron nails. The nails tend to be more numerous towards the two ends, where the sides were joined together. It appears that the lid, if present, was not always nailed down, perhaps because it was only put into position after the coffin had already been put in the grave (Barber and Bowsher 2000, 95). As far as it is possible to tell, all the coffins from Bainesse appeared to be rectangular rather than tapered. Analysis of a selection of mineralised wood remains has identified oak in every case (see Baines, Chapter 9), which is the standard wood for most Roman coffins, and has been found in numerous cemeteries in Britain (Powell 2010b, 324). The mineralised wood usually shows horizontal grain immediately under the head and vertical grain on the lower half of the shank. The thickness of the planks ranges from 12mm to 35mm, but 85% of the surviving samples were between 20 to 30mm. This range falls within the ranges of plank thickness seen at other cemeteries (Table 8.6).

Coffins at Bainesse

There were 49 graves at Bainesse that probably contained a nailed coffin.

Number of nails used

At the Roman cemetery of Lankhills, Winchester, six different nailing patterns used eight, 10, 14, 16 or 18 nails for each coffin (Powell 2010b, fig. 4.19). At the Eastern Cemetery in London they ranged from about nine to 24 (Barber and Bowsher 2000, 163 and 209, B260 and B547), and a preserved wooden coffin from the Western Cemetery used 12 nails (Goodburn 2003, fig. 86b). Nails were used at the four corners of the coffins and about

a quarter of the coffins at Bainesse also had additional nails to attach the long side boards to the base board. This can be a single nail at the mid-point (e.g. Grave **64** and Grave **229**), two or three (Graves **71** and **191**), or multiple examples up to c.10 (e.g. Grave **165**). The size of the coffin did not seem to influence the presence of these side nails, which can be found on shorter coffins just as frequently as long coffins (e.g. Grave **215**). There can also be variation in the number of nails used on different parts of the coffin, such as having more nails near the head end than the foot (e.g. Graves **42** and **71**) or having more nails on one side (e.g. Grave **55** with three on one side and two on the other). Three graves have fewer than eight nails (Graves **11**, **160**, and **184**), but this was likely to be the result of poor preservation.

Coffins using eight to 20 nails were the most basic form and the most common (at least 23 examples). They were used for infants (Grave **222**), young children (e.g. Grave **205**), juveniles (Grave **199**) and adults (e.g. Grave **10**). The short end boards were attached by sandwiching them between the two long side boards, with the nails hammered in from the side (e.g. Graves **17** and **55**). The long boards were sometimes nailed to the base board at the mid-point, even in small coffins (e.g. Graves **26** and **215**), while others can be nailed at up to three points (e.g. Grave **81**).

There were 14 examples of coffins that used 24–34 nails. The additional nails were used to attach the side boards at more points (Graves **165**), or to attach battens (Graves **140** and **229**).

There were only three examples of coffins using over 40 nails, two of which had interesting features to them. Graves **44** and **194** were similar in that they had end boards the full width of the coffin, which were attached by nails hammered in from the short ends of the coffin, and transverse battens. Grave **194** also had an unusual number of nails on the long side boards, especially at the head end, where there were about six (c.60mm long) to each side. In this case the lid seems to have been attached by nails at the midpoint of the short ends. Grave **186** had a minimum of 45 nails, many of them down the long sides. This coffin also had two staples, used for binding pieces of wood together, so perhaps this coffin was made from poor quality wood (identified as oak – see Chapter 9) and the extra nails were to ensure it held together.

Table 8.6: the thickness of planks used in coffins.

Site	Range (mm)	Typical (mm)	Reference
Bainesse	12–35	20–30	-
Mucking	6–50	15–30	Lucy and Evans 2016, 291
Lankhills 2000-5	20–75	20–40	Powell 2010, 324
Lankhills	10–56	20–40	Clarke 1979, 337
London Eastern	15–50	-	Barber and Bowsher 2000, 94
Colchester	34–64	44	Crummy et al. 1993, 34, 120

Length of nails

The most common length for the coffin nails at Bainesse was between 60 and 75mm, which is typical for Roman coffins (Table 8.7). Although the range varied considerably, it appeared from complete nails with surviving wood traces that the coffin-makers generally chose nails that were between two-and-a-half and three times as long as the thickness of the plank (e.g. a 75 mm long nail for a 30 mm thick plank), with the average working out at just under three times. From nails with surviving mineralised wood at Bainesse, it appeared that longer nails were not always used on noticeably thicker planks.

A few coffins were unusual in that they used shorter nails. This did not correspond with smaller coffins: a child's coffin, c.0.80m long, in Grave **205** used nails between 65 and 75mm long and a coffin less than 0.60m long for a child aged 1–12 months (Grave **222**) used at least 19 nails from 55 to 80mm in length. Another child's grave (Grave **221**), probably similar in size to Grave **222**, used at least seven 60–75mm long nails, as well as 15 shorter nails (30–50mm). Instead, the use of shorter nails tended to correspond with graves producing large numbers of nails, such as the coffin in Grave **193**, which produced at least 23 nails even though it had been truncated, most of which were 55–60mm in length. Adult coffins using smaller nails included Grave **140**, which produced at least 28 nails. Here, eight were likely to be above 60mm long, but the majority (n=14) were likely to be 30–50mm in length. The unusual coffin in Grave **44** had nails that were mainly 35–45mm long for battens across its base (see 'Battens', below).

Nails longer than 80mm (up to 120mm) were used for a number of the coffins, but often not in large numbers. The coffins in Graves **71**, **99** and **202** were unusual in that probably all of the nails used were between 70 and 105mm in length. In contrast, the coffin in Grave **165** had typical-sized nails at the head and feet ends, with a

Table 8.7: the most common length of nails at selected Roman cemeteries.

Site	Length (mm)	Reference
Mucking, Essex	40–80	Mould 2016, 290
Lankhills, Cumbria	50–80	Powell 2010, fig. 4.16
Gloucester, Gloucestershire	50–80	Powell 2008, 115

group of five longer nails (70–110mm) spaced at intervals of about 150mm down the central section of the long sides. Grave **240** also had a mix of long and short nails, with at least six over 100mm in length and at least eleven of between 40 and 50mm in length; unfortunately, their position in the grave did not produce a clear picture of their original arrangement. It is possible that some of these long nails were used to attach decorative elements to the coffins. A sarcophagus found near Kerch, Crimea, had three strips of wood, each decorated with a different design of moulding, which were attached to the top of the side planks with a long headless iron pin that passed diagonally through all four pieces of wood, with more mouldings on the base (Ulrich 2007, fig. 4.1).

It is also possible that in a few cases the long nails were not actually used in the construction of the coffin but had been added as grave goods. Nails between 100 and 150mm long have been noted in inhumations elsewhere in the Roman Empire, and in at least one case one seems to have been hammered into a bit of wood that was then laid on the corpse (Alfayé Villa 2010, 428 and 449). The inclusions of such nails may have represented amulets to protect either the living or the dead (see page 546).

Battens

Roman plank coffins were usually made from six individual planks, one for each face. There are three coffins that appeared to have battens across the base, perhaps because either the baseboards had to be made up of narrow pieces of wood, there was some need to reinforce the coffin, such as a particularly heavy corpse, or there was a need to transport the coffin some distance. It is also possible that the carpenters were following the practice used on some large domestic chests, in which runners were added to raise the box slightly off the ground (cf. Herculaneum; Mols 1999, plate 171).

The coffin in Grave **44** had six battens across the base, five of which probably had five or six nails and one with perhaps double that number (the nails were 40–60mm long). The sides of the coffin were fastened with larger nails (75–100mm long). The long sides were nailed to the baseboard about a third of the way from the head end, at the point of the batten, with a large number of nails, and possibly also at other points.

The coffin in Grave **194** had a single batten across the mid-point, attached using typical-sized nails, although there was a high proportion of bent examples. The coffin in Grave **140** appeared to have a line of nails across the coffin just below the shoulders, but as the nails varied in height within the grave cut, it is possible this batten was across the lid. The mineralised wood from a number of nails from this coffin suggested plank thicknesses of between 15 to 20mm (towards the lower end of what is typical for coffins) and the batten may have been added for strength. If it was attached to the lid, there is always the possibility it was decorated and was purely ornamental.

Staples

The use of staples, which are used to hold two separate pieces of wood together, may represent points where poorly dried wood had split, or where more than six planks had to be used due to a lack of wood of the right size. Although six planks were no doubt preferred, the coffin-makers may have had to use whatever was available at the time. For example, a line of nails along the baseboard of a coffin at Lankhills was thought to represent two planks joined by a third (Powell 2010b, 324 and 328).

At least six staples are known from the Bainesse Cemetery. Grave **17** produced two staples (Cat. no. 388–389). One (Cat. no. 388) came from the left-hand side of the coffin, very near the head end, but the position of the other was uncertain. They are similar in size and shape and had the ends of their arms hammered over, indicating that they were used on wood about 32mm thick. Grave **186** produced two staples. Cat. no. 393, located close to the feet, had the tips of its arms hammered inwards and was used on wood c.40mm thick. One arm of Cat. no. 394, located next to the left knee, was straight, but the other appeared to have had the tip hammered over. Mineralised wood remains suggested it was used on wood at least 52mm thick. Both these measurements were much thicker than that suggested by the mineralised wood on the coffin nails, which indicated plank thickness of 25mm and 30mm.

The coffin in Grave **42** had at least one staple and two small iron strips. The strips, placed either side of the coffin near its mid-point, lack any means of attachment and may be the remains of very poorly preserved staples that are missing their arms. It is also possible that they were part of staple Cat. no. 390, shattered when the coffin collapsed and their apparent positioning in the grave was purely accidental. Cat. no. 390 was used on wood c.20mm thick.

Other fittings

Only four of the possible 39 wooden coffins had additional metal fittings, none of which were very elaborate. While the wood used for coffins could be reused, as shown from the baseboard of a preserved coffin from London (Goodburn 2003, 60), and old nails or other metal fittings might occasionally have been left in the old wood, there is growing evidence for the deliberate use of fittings.

Double-spiked loops were found in two graves. That in Grave **10** (Cat. no. 395) was well-made and fastened through wood c.25mm thick, with the ends of the spikes hammered back into the wood. It came from the lid of

the coffin, about one third of the way down from the head end. That from Grave **202** (Cat. no. 396) came from approximately half-way down the left-hand side of the coffin. The loop was bent over almost at right-angles to the spikes and mineralised wood, with horizontal grain covering at least half of it, suggesting it had been bent flat against the side of the coffin. If this was from reused wood, it may have been bent up, as it was not required, but loops have been found in a similar position on other coffins and the damage may have occurred when the coffin collapsed (Mills 1993, 117, nos 26–28 and not illustrated).

Eight possible double-spiked loops were found in six burials at the late Roman cemetery at Poundbury (Mills 1993, 177, fig. 18, grave 470, fig. 81). In five of the burials, the loops seem to have come from the side or ends of the coffins: in one burial, the loop was found beside the upper femur; in two others, a pair of loops were found side-by-side next to the upper femur; while in two further cases, the loops were found at the head or foot of the coffin. In one case, a bent strip of iron, said to be formed into a loop, was thought to have been attached to a wooden board that covered the un-coffined burial. It was positioned centrally over the upper femur/pelvis (*ibid.*, fig. 52, grave 243). Examples are also known from a grave at Mucking (a coffin with 57 nails, position of loop not stated; Mould 2016, 292) and from two coffins in the Eastern Cemetery, London (Barber and Bowsher 2000, 94). One of these coffins was made with a 'large number' of nails and two double-spiked loops in the centre of one side, although unfortunately the other side did not survive. It was suggested that the double-spiked loops and other forms of loop may have been used as decoration, for attaching ropes for moving the coffin, or as handles (*ibid.*).

Grave **13586** produced a loop from the area of the left-hand wall of the coffin, about two-thirds of the way down, towards the feet (Cat. no. 397). Two loops of a similar size were found on one side of a late Roman coffin at Poundbury (Mills 1993, 117, fig. 90, grave 781); like double-spiked loops, they may have been used as decoration or handles.

Grave **44** produced an iron strip (Cat. no. 399), which was found on the right-hand side of the coffin near the head end. There was still a nail in situ in the hole at one end, which was bent at the end, indicating a plank thickness of 20–25mm. However, at the other end, there was a nail bent in a hook shape, with the head on the opposite side to the first nail. If this combination is not the result of the collapse of the coffin, perhaps it was some bodged method of attaching the plate to the corner of the coffin. A similar plate was found in this position on a coffin from Lankhills (Powell 2010b, fig. 4.22). The Lankhills coffin probably had three such plates, which were thought to be decorative. A possible fragment of a pierced strip in Grave **17** (Cat. no. 398) might also be a coffin fitting.

Coffins at *Cataractonium*

Four graves at *Cataractonium* contained nailed coffins. The average size of nails was larger than at Bainesse. At least half the nails from Grave **20159** were c.80–90mm long, with one being 105mm, while Grave **20340** had nine measuring 80–90mm, two longer (100mm) and only four or five that were shorter. Grave **20621** also had nails measuring 80–100mm long, with only one being shorter. This grave had nails only at the head and feet ends, with none down the long sides of the coffin.

The most interesting burial was Grave **20476**, which dated to the second half of the 4th or early 5th century. The nails survived best at the head end, showing that the end panels were attached from the short side of the coffin and that there were probably nails down the long sides. Whereas most nails from the cemeteries in the region had round heads, this coffin is unique in having nails with rectangular heads. The remains of mineralised wood suggested an unusually thin plank thickness of c.10mm, but the preservation of the wood was quite poor and as a result this could be misleading. While the use of unusual nails could be a quirk of a single coffin-maker in the area, it may indicate that the coffin was brought from elsewhere.

Coffins at Scurragh House

There was a single nailed coffin from the eight inhumations at Scurragh House (Grave **10825**). It was made using nails of 65–80mm length and had up to eight nails along each of the long sides. This use of a large number of nails on the side boards, although not very common, was also employed at Bainesse (Graves **193**, **194** and the late Roman/Anglo-Saxon Grave **209**).

Other grave structures

Grave **20532** at Brompton West did not have a nailed coffin, but there were four nails, two on either side of the shoulders. One incomplete example had an unusually thick flat head and the other three (55–65mm in length) were gently curved. It is unclear what sort of structure they could come from, and it is possible that were deliberately placed in the grave as a protective measure (see page 546).

Catalogue

Stone lining

376 Lower part of an incomplete tufa armchair voussoir. L: 400mm+, W: 290mm, lower B: 60mm, upper B: 65mm. Field 163C, Grave 237, Context 13085,

RF11685. Figure 3.167.

377 Almost complete tufa armchair voussoir with a shallow groove across one surface (160mm from the top). L: 450mm, W: 300mm, lower B: 75mm, upper B: 85mm. Field 163C, Grave 237, Context 13085, RF11686. Not illustrated.

378 Almost complete tufa armchair voussoir with a semi-circular notch. L: 430mm, W:270mm+, lower B: 80mm, upper B: 100mm. Field 163C, Grave 237, Context 13085, RF11694. Figure 3.167.

379 Almost complete tufa armchair voussoir. L: 420mm, W: 290mm, lower B: 90mm, upper B: 100mm. Field 163C, Grave 237, Context 13085, RF11695. Figure 3.167.

380 Almost complete tufa armchair voussoir. L: 440mm, W: 250mm+, lower B: 100mm, upper B: 130mm. Field 159A, Grave 13420, Context 13434, RF13704. Not illustrated.

381 Almost complete tufa armchair voussoir. L: 450mm, W: 270mm+, lower B: 100mm, upper B: 130mm. Field 159A, Grave 13420, Context 13434, RF13705. Figure 3.201.

382 Three fragments of a tufa armchair voussoir. L: 460mm, W: 250mm+, lower B: 55mm+, upper B: 70mm. Field 159A, Grave 13420, Context 13434, RF13706. Not illustrated.

383 Almost complete tufa armchair voussoir. L: 460mm, W: 270mm+, lower B: 60mm, upper B: 80mm. Field 159A, Grave 13420, Context 13434, RF13707. Not illustrated.

384 Lower part of an incomplete tufa armchair voussoir. L: 300mm+, W: 250mm+, Th: 65mm. Field 159A, Grave 13420, Context 13433, RF13708. Not illustrated.

385 Upper part of an incomplete tufa armchair voussoir (not part of RF13708). L: 300mm+, W: 280mm+, Th: 90mm. Field 159A, Grave 13420, Context 13433, RF13709. Not illustrated.

386 Complete sandstone roofing slate with rectangular nail hole. L: 790mm, W: 630mm, Th: 30mm, Wt: 19.2kg. Field 178, Grave 20621, Context 20622, RF7660. Figure 4.54.

387 Fragment of sandstone roofing slate with rectangular nail hole. L: 500mm+, W: 470mm+, Th: 30mm. Field 178, Grave 20621, Context 20622, RF13701. Not illustrated.

Staples

388 Iron staple of rectangular cross-section. L: 67mm, W: 43mm, Th: 8mm. Field 163C, Grave 17, Context 13154, RF11870. Figure 3.16.

389 Iron staple of rectangular cross-section. Missing one arm. L: 75mm, W: 40mm, Th: 10mm. Field 163C, Grave 17, Context 13154, RF13607. Not illustrated.

390 Incomplete iron staple of rectangular cross-section. L: 28mm+, H: 29mm, Th: 11mm. Field 163C, Grave 42, Context 12740, RF10479. Figure 3.31.

391 Iron strip or staple of rectangular cross-section. L: 25mm, Th: 9mm. Field 163C, Grave 42, Context 12740, RF10480. Not illustrated.

392 Iron strip or staple of rectangular cross-section. L: 40mm, Th: 12mm. Field 163C, Grave 42, Context 12740, RF10485. Not illustrated.

393 Iron staple of rectangular cross-section, with patch of mineralised wood with horizontal grain. L: 57mm, H: 50mm, Th:11mm. Field 163C, Grave 186, Context 12653, RF10321. Figure 3.123.

394 Iron staple with long arms of rectangular cross-section, with patch of mineralised wood displaying horizontal grain. L: 47mm, W: 9mm, H: 58mm, Th: 5mm. Field 163C, Grave 186, Context 12653, RF10353. Figure 3.123.

Other fittings

395 Iron double-spiked loop. L: 51mm, W: 60mm, Th: 11mm. Field 163C, Grave 10, Context 13264, RF11858. Figure 3.10.

396 Iron double-spiked loop. L: 50mm+, W: 27mm, Th: 7mm. Field 163C, Grave 202, Context 12712, RF10406. Figure 3.140.

397 Iron loop of sub-rectangular cross-section. Diam: 42mm, W: 8mm, Th: 10mm. Field 163E, Grave 13586, Context 13593, RF12000. Figure 3.198.

398 Iron pierced strip. L: 36mm, W: 24mm, Th: 2mm, Hole Diam: 7mm. Field 163C, Grave 17, Context 13154, RF11934. Figure 3.16.

399 Iron strip with two nails. L: 88mm, W: 27mm, Th: 3mm. Field 163C, Grave 44, Context 12770, RF11130. Figure 3.33.

FINDS FROM CREMATION BURIALS

Alexandra Croom

There were 30 Roman cremation burials recognised across the scheme and at least some level of artefactual remains was recovered from all but two (Graves **265** and **274**). Distinction between intentional grave or pyre good and accidental or unintentionally included artefacts was not always possible, so this could result in an over-

quantification of extant grave goods. Nonetheless, the artefacts were limited in both number and diversity with very few cremation burials containing anything other than hobnails and ceramic vessels. There were a number of nails and tacks that could have been from boxes or other wooden objects, that cannot be reconstructed. The grave of an adolescent (Grave **20106**) was perhaps the most spectacular cremation deposit in the scheme, as it contained a broken pipe clay figurine and evidence of a funerary bed that had been decorated with bone veneer.

Brooch

Grave **272** produced a continental P-shaped brooch (Cat. no. 400), dated principally to the first half of the 3rd century (Mackreth 2011, 198). There is a close parallel from Silchester (*ibid*., plate 135, no. 10251). By this period, most brooches were being used by the military, so if it belonged to the deceased, this is likely to be a soldier's grave. Unfortunately, it was impossible to sex the surviving remains.

Bracelet

The bracelet (Cat. no. 401) in Grave **6790** at Brough Park was found towards one end of the cremation pit, in the upper layers (not a part of the primary cremation deposit). It was in poor condition and the form of the fastening was uncertain beyond consisting of wire wrapped round the band. It could have been two sliding knots, or a hook and eye. It had a wide diamond-shaped cross-section that tapered to a square cross-section towards the fasteners.

A fragment of an iron bracelet (Cat. no. 402) was recovered from cremation Grave **7859** at Scurragh House (see 'Bracelets, armlets and anklets', above, for parallels).

Footwear

Hobnails were recovered from eighteen cremation burials: nine at Bainesse Cemetery; five at Brough Park; one at Brompton West; and three at Scurragh House. Eight had 20 or more hobnails (at least four from adult burials), while the remaining burials had less than 10, including some from one adult and three non-adult burials.

Six cremation burials at *Cataractonium* contained hobnails, three with over 20 hobnails (two adults and one mixed, from the *bustum*), and three with between five and seven hobnails (including two containing children). Leather from the shoes in Graves **6729**, **6785** and **6790** was still present when the cremated remains were buried, as some of the hobnails had evidence of mineralised leather or were corroded together and held in position by leather. It has been observed that bones from the feet are sometimes less fully burnt than the rest of the body, being located towards the edge of the pyre, so these could be the remains of worn shoes (Noy 2000b, 40). However, they could also have been pyre goods, since it was noted that some bone from all three graves was incompletely burnt and that the cremation process had not been fully successful, either because a high enough temperature was not reached, or because the pyre was not left to burn for long enough (see Chapter 6).

The *bustum* (Grave **6790**) produced a minimum of 234 hobnails from at least two pairs of shoes, which were found throughout the deposit. Most of the layers in the pit produced hobnails with both 8–10mm and 10–12mm heads, and sole thicknesses of 9–10mm and 12–14mm. The majority of the hobnails came from the lowest layers, where most of the human remains were found. There were 116 hobnails in the lowest level, where the incompletely burnt remains of a female or adolescent were found. These may have come from shoes worn by the corpse. Some of the hobnails were corroded together, indicating that some leather also remained unburnt. However, the two different sizes of hobnails suggest two pairs of shoes. Only 48 hobnails came from the upper two layers, where most of the nails came from, and may represent pyre goods.

The presence of multiple shoes was not surprising, since there were at least five individuals (adults and adolescents) in Grave **6790**. However, there is also the possibility of two pairs in another cremation burial (Grave **6723**, unsexed adult), where there were two different sole thicknesses (8mm and 12mm). Grave **6782** only produced seven hobnails (c.8mm in diameter), which were flat and worn-down. The sole thickness, c.6–8mm, suggests they must have come from a small or quite thin-walled shoe (Cat. no. 414). This fits well with the age of the individual buried there; a 9–12-year-old juvenile. Grave **6785** contained remains from both an infant and a young juvenile, but as two of the seven hobnails present had a sole thickness of c.12mm it is possible the original footwear belonged to the older individual.

At Scurragh House, hobnails were found in three cremation burials (Graves **7683**, **7830** and **7859**). As with those recovered from the inhumations, they were all small-sized hobnails. Many of those in Grave **7859** (juvenile) and Grave **7683** (?adult) were still quite conical in shape, suggestive of shoes that were relatively new or had seen little wear. Although a rural site, the hobnails recovered from cremation burials were a smaller, finer type of hobnail, which is also reflected in the inhumation evidence.

Pipe-clay figurine

The fill of the cremation pit for Grave **20106** contained part of the base of a pipe-clay figurine (Cat. no. 421). Only the bare feet of the human figure survive, standing on a rectangular base. On either side of the feet are

the remains of the objects or animals that frequently accompany figures of deities. Not enough of the figurine survives to identify it, but examples of other pipe-clay figurines with bare feet on rectangular bases depict Venus the Protector with a figure on a pedestal to one side and a cockerel on the other, and Hercules with the end of his club resting on the ground to one side and the lower folds of a lion-skin on the other (cf. von Gonzenbach 1993, figs 88–9 and fig. 73 no. 39). The example from Grave **20106** is an uncommon form of pipe-clay figurine in this country, since the vast majority are either the '*dea nutrix*' type or Venus standing with one hand raised to her head, so it is of interest that a fragment possibly from a figurine similar to the example from Grave **20106** has previously been found at *Cataractonium* (Cooper 2002, fig. 327 no. 3). Pipe-clay figurines have been found in a number of cremation burials, including a complete figurine of Venus in a late 3rd- or 4th-century cremation burial at Brougham, Cumbria (Cool 2004, 400–1). The cremation burial with the figurine of Venus was of an unsexed subadult or adult (13 years+), while in Gaul pipe-clay figurines are associated with both cremation burials and inhumations of infants and children (Barber and Bowsher 2000, 319). The presence of a figurine in Grave **20106** may be an example of the practice of including amulets or other forms of protection in the graves of young people, which could suggest the adolescent (13–17 years) buried in the grave was at the lower end of the age range. Although the fragment from Grave **20106** has little obvious signs of burning, the fact that the figurine is incomplete suggests it was part of the pyre goods, as is thought to be the case at Brougham, rather than being placed as a grave good when the cremation and pyre debris was buried, as has been noted elsewhere (Cool 2004, 400).

Nails, funerary bed, and other structural fittings

A range of nails and tacks were found in nearly half of the cremation burials. Some may have derived from items left on the pyre, while the presence of others may indicate the use of scrap wood for the pyre. Bone veneer or inlay survived as evidence for a funerary bed in one of the cremation burials (Grave **20106**), along with at least 108 nails and tacks.

Nails and tacks

Nails in cremation burials at *Cataractonium* and Bainesse were generally 30–50mm in length, which may have been used on wood 10–20mm thick, since nails are traditionally three or two-and-a-half times the thickness of the wood being used (Table 8.8). This difference in the length of nails found in inhumations and cremation burials is very noticeable and has occasionally been noted elsewhere, such as at Gloucester, where nails under 37mm were found only in the cremation burials and not the inhumations (Powell 2008, 115). They were presumably used for non-weight-bearing elements on the bier or funerary bed, or possibly boxes or chests used as pyre goods. If they came from scrap wood used as fuel, larger nails, and a wider range of sizes, would be expected.

Small tacks with flat heads (diameter: 7mm, length: 15–25mm) were a feature of cremation burials, but not inhumations. They may have come from pyre goods, such as small caskets, possibly ones specifically made for the funeral, since good-quality caskets would have been made without any structural nails (and while nails were used to fasten metal fittings onto boxes, no such fittings have been recovered from the cremation burials). It is possible the tacks were used for some purpose specific to the cremation preparation or process, such as pinning any drapery, leather covers or other decorations in position. They were not used in large quantities. The largest number of tacks from any one cremation burial at Bainesse, where only a selection of pyre material was retained, was nine (Grave **264**), while the in situ remains of the pyre from the *bustum* burial at Brough Park (Grave **6790**) produced only seven. Elsewhere, similar tacks have been found at Brougham, Cumbria (Mould 2004a, 271), and in a child's cremation burial at Mucking, Essex (up to 13 tacks; Lucy and Evans 2016, 283, cremation 44), although it is difficult to say just how common these tacks are, as most older excavation reports do not go into detail about nails found in cremation deposits.

Most of the cremation burials contained between one and seven nails, but two produced more: Grave **20106** and Grave **269**. In Grave **269**, 12 nails and six tacks were recovered from the fill round the urn and a single tack from inside the urn itself. The pit fill also contained cremated remains, so in this grave pyre material was both put in the urn and some in the pit around it. The absence of larger nails inside the urn may mean they were removed from the material destined for the urn but left in the fill material.

Grave **20106** produced a minimum of 108 nails and tacks. Even if all of the pyre remains were carefully collected and buried in the pit, it produced more nails than the *bustum*, where the pyre remains were left in place. There were 17 tacks, 77 nails under 40mm in length, and 14 nails of 60–70mm (of which only one was certainly 70mm long). If all this material came from a single event, then the display on the pyre must have been extremely elaborate, perhaps including a bier with a canopy, or stands for pyre goods or to create a flat surface above the rough-cut fuel wood. It almost certainly included a funerary bed decorated with bone, as examples of veneer/inlay were recovered (see 'Funerary bed', below). A cremation

burial at Brougham that produced bone inlay from a funerary bed also produced a large number of nails (at least 97), which were less than 36mm in length (Mould 2004a, 271). A cremation burial at Trentholme Drive, York, produced an even larger number of nails, although the lengths were unfortunately not discussed, aside from two copper nails measuring 40mm and 13mm. In total, there were 188 iron nails and it is possible this cremation burial had an all-wood funerary bed or bier (Wenham 1968, 32, no. 41).

The *bustum* (Grave **6790**) produced at least 43 nails (which are now mainly incomplete), the majority of which came from the upper two layers and therefore above most of the human remains. There were seven nails between 60 and 80mm in length, another eight over 40mm, up to 21 under 40mm, and seven tacks. Therefore, only a small number were suitable for robust construction, most of which came from the middle third of the pit. The majority of the nails were under 40mm in length, suitable for use on wood of around 10–16mm thickness. There were only a small number of tacks, some of which had been hammered diagonally into the wood. Just slightly smaller in size were four small tacks made from thin copper-alloy sheet folded into a cone and flattened on the top (Cat. no. 423). Their use on copper-alloy edging and metal sheets suggests that many were used on decorated or patched caskets (cf. PAS ID: NLM-8A3B53, Winteringham, North Lincolnshire).

The largest nail from all the cremation burials came from Grave **6785** at Brough Park. The cremation deposit included two short nails to one side in the pit, and one very long, gently bent, nail (length: 130mm) carefully placed near the cremation vessel. In particular, the long nail was clearly included in the pit deliberately, and it is possible that the others had also been deposited in a similar manner. The deliberate inclusion of nails in cremation burials (including nails larger than the cremation vessel itself) has been noted elsewhere in the Empire (Alfayé Villa 2010, 429, figs 11–12). In the ancient world, iron was considered to have the power to both repel and restrain supernatural forces, while nails, with their ability to fix things in place, were used in both magic and medicine (*ibid*., 432 and 441). Therefore, iron nails may have been used in graves to either protect the dead from malign spirits, or to protect the living by holding the 'restless dead' in the grave. The restless dead were considered to consist of those who had died prematurely, who died before they were married, who had died by violence or who had not had proper burial rites (*ibid*., 445 and 449). The last category is not relevant in the context of a cemetery burial, but the first two in particular would be relevant here, as the remains in Grave **6785** included an infant and a young juvenile. The placement of nails in the graves of infants, in particular, has been noted elsewhere (*ibid*., 450).

Funerary bed

Funerary bed veneer or inlay (Cat. no. 425) from Grave **20106** comprised 39 fragments of bone veneer (glued onto wood) or inlay (inlaid in wood) in three designs, with 77 scraps that were too small for certain classification (the term 'veneer' will be used in the following for convenience). Funerary beds decorated with ivory or bone were a feature of elaborate funerals in Italy during the 1st century and have occasionally been found in Britain, although the practice had died out by the end of the Flavian period (Noy 2000b, 39; Greep 2004, 274). Bone decoration from later cremation burials in Britain has now been found at a number of sites, most noticeably at Brougham and Birdoswald (both in Cumbria), and could possibly be a feature of mid- to late 3rd-century burials of soldiers or their families (Greep 2004, 274; Wilmott *et al*. 2009, 283, 290).

Table 8.8: summary of nails from cremations.

Grave No.	Tacks	Small nails 25-55mm	Medium nails 60-80mm	Long nails 85-100mm	Uncertain length	Shanks without heads	Total (excluding shanks)
263	-	-	1	-	1	1	2
264	9	6	-	-	1	1	16
265	-	-	-	-	1	-	1
267	8	-	2	-	-	-	10
269	6	1	-	1	10	1	18
270	4	1	-	-	3	-	8
271	5	1	-	-	-	-	6
272	1	-	-	-	-	-	1
6729	-	2	-	-	1	-	3
6790	7	21	7	-	8	11	43
7859	-	-	-	-	-	1	-
20106	17	77	14	-	-	4	108

There were four main types of veneer decoration present in Grave **20106** (Table 8.9). The 20 fragments of Type 1 decorated strips ranged from 11–16mm in width, but were generally c.13–4mm, and were 4–6mm thick. Type 1.1 has a single groove between saltires and Type 1.2 has a double groove, although one piece (Cat. no. 425.9) shows there could be both on a single strip. This piece also shows that while the ends of the strips were generally straight, some could be cut at a slight angle. Type 2 was a less common type of wide strip, with a thickness of 3–4mm and diagonal lines set between horizontal lines. The diagonal lines often did not run across the full width of the strip. The one surviving end fragment was cut at a slight angle Cat. (no. 425.21). Type 3 strips were slightly narrower and 4–5mm thick and had groups of diagonal lines running in alternate directions. Although no complete strips survive, the longest was over 93mm. Only two of the Type 3 strips have surviving ends, which are both cut at a 45-degree angle and have horizontal/vertical lines rather than diagonal (Cat. nos 26 and 27). The narrowest strips were the Type 4 strips and measured 4–6mm thick. They had groups of four diagonal lines all running in the same direction, and both straight and angled ends.

The thickness of the pieces varied from c.3mm to 6mm and, while not as extreme as the variation seen at Brougham and Birdoswald (Wilmott *et al.* 2009, 285–6), would still have created an uneven surface if used as veneer, or required extra work when cutting the wood if used as inlay. However, it is possible that an uneven finish was not a concern for a funerary bed. It is unknown whether tradition specified a particular shape for the funerary bed, or if its design followed contemporary domestic furniture design. A 'traditional' design might have a curved head board, following Greek prototypes, while a contemporary shape would have wooden walls (called boards) on three sides (Croom 2007, figs 10 and 18, cf. fig. 8). The bone pieces with angled ends may have been used to create open squares replicating the wood panelling common on such boards, or a more elaborate design, such as a meander pattern (for examples in wood see Mols 1999, figs 64, 88 and 93). At Pompeii, a cast of a bed with boards was discovered that still had bone decoration in situ. This decoration had two continuous horizontal lines joined at intervals by paired vertical lines on all three boards (Spinazzola 1953, figs 510–11). As it would take some time to make all the bone strips required, it is possible they were made in advance and stored until required, only being attached when a bed was made specifically for a funeral.

Table 8.9: bone veneer types in Grave 20106.

Type	Sub-type	Description	Count
1		Wide strip (11–16mm), with a saltire cross between grooves.	20
	1.1	With single groove between saltires.	
	1.2	With double groove between saltires	
2		Wide strip (13mm) with diagonal lines between single grooves.	5
3		Thin strip (9–11mm), with groups of grooves set in a zig-zag pattern.	4
4		Thin strip (8–9mm) with groups of diagonal grooves spaced at internals.	10

A small bone loop also came from the same pit (Cat. no. 430). It was well-made, but only roughly finished, with file marks visible on the sides. It had an internal diameter of c.11mm, suggesting that its use as a finger-ring was unlikely. Grooved examples of bone rings have been found in cremation burials at Brougham that also produced bone veneer (cremation 70 and cremation 307; see Cool 2004, fig. 4.69 no. 4, fig. 4.251 no. 12). A thicker loop was also found in the pit of a cremation burial at Birdoswald fort that had bone veneer in the cremation urn (cremation 3; see Wilmott *et al.* 2009, fig. 381 no. 20). Such loops were not veneer but could be an associated decorative element on the funerary bed or bier, such as a drop-handle or a tie for textile drapes or garlands.

Parallels

The design of the *Cataractonium* pieces, which consists of straight grooves on rectangular strips, is very austere compared to those used at other sites (Table 8.10). At Brougham, the bone veneer could be allocated to seven major groupings, including geometric shapes and figurative pieces, as well as strips, and included circular and dot and ring decorative motifs, while the cremation burial at Birdoswald had four groups of forms and also included dot and ring decoration (Greep 2004, 275–82; Wilmott *et al.* 2009, 283). Although no evidence survives on the *Cataractonium* pieces, the grooves were probably originally filled with coloured wax (Greep 2015, 134). There was no evidence of the colouring on the bone itself seen at Brougham and Birdoswald.

Use of funerary beds

The use of a decorated bed was a way of demonstrating wealth or expressing grief through conspicuous expenditure. Bone veneer is usually associated with the remains of adults, although it has very occasionally been found with adolescents (Greep 2004, 274, table 5.3). There is also evidence that they were provided for both men and women (Greep 2004, table 5.3; Wilmott *et al.* 2009, 283). The remains in Grave **20106** have been identified as an unsexed adolescent (13–17 years; see

Table 4.35). Unfortunately, the other surviving artefacts from Grave **20106** do not help in identifying the gender of the individual buried in the pit. They consisted of a few smaller sized hobnails, perhaps more suitable for an adolescent or female than an adult male, and a fragment of a pipe-clay figurine, which are often associated with children in a burial context. While the fact that funerary beds were most commonly used for adults would suggest the individual in Grave **20106** was closer to 17 years old than 13, the figurine, if it belonged to the deceased rather than to a mourner, would point towards someone closer to the lower end of the age range. Although the artefactual evidence does not allow us to further refine the age of this individual, it nonetheless provides an interesting example where the artefacts and remains from the burial furniture appear to provide conflicting information about the deceased's age.

Table 8.10: comparison of bone veneer designs at Brougham and Birdoswald.

Type	Comparison
Type 1.1	Brougham type A6.2 (rare at site): (Greep 2004, fig. 5.2, no. 307)
Type 1.2	Birdoswald type A6.3: (Wilmott et al. 2009, fig. 381, nos 12-3)
Type 2	No parallels
Type 3	Brougham type A5 (common at site): (Greep 2004, fig. 5.2, no. 194); Birdoswald: (Wilmott et al. 2009, fig. 381, nos 5-6)
Type 4	No certain parallels

Other structural fittings

One cremation burial (Grave **6783**) produced a double-spiked loop with straight arms (Cat. no. 424). A comparable example was found in a cremation burial at Brougham (redeposited pyre debris; see Cool 2004, fig. 4.109 no. 3). While this may have originated from scrap wood used as fuel or be the handle or hinge from a chest placed on the pyre, the increasing numbers found in burials suggest that they played some function within funerary rites, such as fittings on biers, funerary beds or (in inhumations) coffins. They could be handles, rope guides, decoration, or used for holding other forms of decoration, such as cloth drapery or garlands.

Other pyre goods

Items that are possibly pyre goods include a small fragment of silver (Cat. no. 426; Grave **263**) and a small iron loop (Cat. no. 427; Grave **267**) from Bainesse. A length of partially hollow crinoid stem was found in Grave **6790** at Brough Park. This was probably an accidental inclusion, but Romans are known to have occasionally kept fossils as curios or magical stones (Duffin 2008; Stevenson 1966).

Discussion

The finds recovered from the cremation burials show the same bias towards items of personal adornment and clothing as seen in the inhumations; brooch, bracelet and footwear. All these could have been worn by the corpse, rather than be additional goods placed on the pyre, and the only likely pyre good is the pipe-clay figurine in Grave **20106**. The decorated funerary bed shows this was an expensive funeral, but the remains of any other pyre goods were either not picked out of the pyre remains for burial or were organic and did not survive the fire. This selection of material for burial means it is impossible to say how often items were placed with the corpse at the funeral when the body was cremated. This makes the *bustum* burial of interest, as the remains of the pyre were buried in situ; other than footwear and a single bracelet (all of which could have been worn), no non-organic pyre goods were included with the five individuals cremated.

Catalogue

Personal adornment

400 Copper-alloy continental P-shaped brooch, sprung pin type 3.b (Mackreth 2011), found in two fragments that refit. L: 36mm, W: 24mm, H: 21mm. Third century, perhaps from the first half. Field 163C, Grave 272, Context 13062 (and sample AA), RF11374, RF12865. Figure 3.194.

401 Copper-alloy bracelet with twisted wire terminal. L: c.74mm, W: 78mm, Th: 4.7mm. Field 172, Grave 6790, Context 25005 (and samples AA and AH) and 6792AA and AC, RF11421, RF14522–14523, RF14526, RF14527–14529. Figure 4.25.

402 Incomplete iron bracelet of sub-square cross-section, with a section of another fragment corroded onto one side. Diam: 62mm, Th: 3.5mm. Field 209, Grave 7859, Context 7860AA, RF13640. Figure 5.25.

Footwear

403 Nailed shoe(s) with a minimum of 27 hobnails. Diam: 10mm. Field 163C, Grave 257, Context 12400AA, RF13695. Not illustrated.

404 Single hobnail. Diam: 7mm. Field 163C, Grave 258, Context 12414AA, RF13698. Not illustrated.

405 Four hobnails. Diam: 12mm. Field 163C, Grave 259, Context 12685AA, RF13598. Not illustrated.

406 Nailed shoe(s) with a minimum of 23 hobnails. Diam: 9mm. Field 163C, Grave 260, Context 12348AA, RF13696. Not illustrated.

407 Three hobnails. Diam: 8mm. Field 163C, Grave 263, Context 12357 (and sample AA), RF594,

RF13592. Not illustrated.

408 Nailed shoe(s) with a minimum of 20 hobnails. Diam: 9–10mm. Field 163C, Grave 266, Context 12312AA, RF13734. Not illustrated.

409 Single hobnail. Diam: 9mm. Field 163C, Grave 267, Context 12311AA, RF13697. Not illustrated.

410 Nailed shoe(s) with a minimum of 24 hobnails. Diam: 9mm. Field 163C, Grave 270, Context 12320 (and sample AA), RF589, RF590, RF13591. Not illustrated.

411 Eight hobnails. Diam: 11mm, MTh: c.10mm. Field 163C, Grave 272, Context 13062 (and sample AA), RF11375. Not illustrated.

412 Remains of hobnailed shoe(s) with a minimum of 35 hobnails. Diam: 10–11mm, MTh: 8mm and 12mm. Field 172, Grave 6723, Context 6726AA, RF15073, RF15074, RF13684. Not illustrated.

413 Remains of hobnailed shoe(s) with a minimum of 41 hobnails, many still conical. Diam: 10–12mm, MTh: 10–12mm. Field 172, Grave 6729, Context 6730, RF5618. Not illustrated.

414 Remains of hobnailed shoe(s) with a minimum of seven hobnails. Diam: 8mm, MTh: 6–8mm. Field 172, Grave 6782, Context 6780AA and 6781AA, RF13715. Not illustrated.

415 Remains of hobnailed shoe(s) with a minimum of seven hobnails. Diam: 10mm, MTh: 13mm. Field 172, Grave 6785, Context 6795, RF15122, RF33079. Not illustrated.

416 Remains of hobnailed shoes with a minimum of 234 hobnails. Diam: 8–10mm and 10–13mm, MTh: 9–10mm and 12–13mm. Field 172, Grave 6790, Context 6791AA, AB, AC, AH, Context 25003AD, Context 25005AA, AC, AF, AH, Context 25004AA, AB, AC, AD, AF, Context 25007AB, RF13685, RF15061, RF15066, RF15072. Not illustrated.

417 Five hobnails. Diam: 8mm. Field 178, Grave 20106, Context 20107, RF13669. Not illustrated.

418 Nailed shoe(s) with a minimum of 23 hobnails. Diam: 7–9mm, MTh: c.8mm. Field 211, Grave 7683, Context 7684AA, Context 7685AA, RF13630, RF13634. Not illustrated.

419 Eight hobnails. Diam: 10mm, MTh: c.7mm. Field 209, Grave 7830, Context 7831AA, RF13635. Not illustrated.

420 Nailed shoe(s) with a minimum of 22 hobnails. Diam: 8–10mm, MTh: c.8mm. Field 209, Grave 7859, Context 7860AA, RF13639. Not illustrated.

Pipe-clay figurine

421 Rectangular base of a pipe-clay figurine. L: 70mm, W: 48mm, H: 53mm. Field 178, Grave 20106, Context 20106, RF7420. Figure 4.65.

Nails, funerary bed, and other structural fittings

Nails and tacks

422 Long curved iron nail. L: 130mm, Diam head: 15mm. Field 172, Grave 6785, Context 6786, RF11401. Figure 4.19.

423 Remains of four copper-alloy tacks made from folded sheet metal. L: 13mm, W: 8mm, Th:4mm. Field 172, Grave 6790, Context 6792 (and sample AD), RF14524, RF14531. Figure 4.25.

424 Iron double-spiked loop with straight arms. L: 77mm, Diam eye: 26mm, Th: 10mm. Field 172, Grave 6783, Context 6784, RF11403. Figure 4.18.

Veneer or inlay

425 Thirty-nine fragments and 77 scraps of decorated bone veneer or inlay. For details see Table 8.11. Field 178, Grave 20106, Context 20107 (and sample AA), Context 20109 (and sample AA), RF7411, RF7421, RF7436, RF13181, RF14548. Figure 4.65.

Other pyre goods

426 A small fragment of silver in very poor condition. L: 10mm, W: 8mm, Th: 3mm. Field 163C, Grave 263, Context 12357, RF595. Not illustrated.

427 Small, incomplete iron loop of square cross-section. Diam: 15mm, W: 4mm, Th: 4mm. Field 163C, Grave 267, Context 12311AA, RF13589. Figure 3.187.

428 Fragment of a fossil crinoid stem. D: 17mm, L: 32mm. Field 172, Grave 6790, Context 25003, RF11422. Not illustrated.

429 Small fragment of molten copper alloy. L: 9mm, W: 6mm. Field 172, Grave 6790, Context 25003AA, RF32999. Not illustrated.

430 Bone loop with D-shaped cross-section. Diam: 18mm, W:3.5mm, Th: 5.5mm. Field 178, Grave 20106, Context 20107, RF7410. Figure 4.65.

SUMMARY OF ROMAN GRAVE GOODS

Alexandra Croom

Roman grave goods can be divided into three main categories: clothing and personal adornment worn by the corpse; clothing and personal adornment placed in the grave alongside the corpse; and objects placed on top of the corpse or coffin. The first category encompasses the possessions of the deceased, the third category probably consists of gifts from mourners, while the second category could be either. The reasons for including possessions in graves are unclear; in particular, it is unknown whether

Table 8.11: catalogue of bone veneer inlay from Grave 20106.

Cat. No.	Type	Part	Width (mm)	Thickness (mm)	Length (mm)	Context	RF No.
425.01	1.1	End (s)	14	6	25+	20109	7421
425.02	1.1	End (s)	13	4.3	19+	20109	7436
425.03	1.1	End (s)	14	5.1	49+	20109	7421
425.04	1.1	Body	13	4.8	27+	20107	13181
425.05	1.1	Body	14	5.5	37+	20109	7421
425.06	1.1	Body	15	5.6	32+	20109	7436
425.07	1.1	Body	15	5.7	25+	20109	7436
425.08	1.1	Body	11	5.1	21+	20109	7421
425.09	1.2	End (sa)	16	4.5	32+	20109	7436
425.10	1.2	End (s)	15	4.5	18+	20109	7436
425.11	1.2	End (s)	13	4.5	24+	20107	7411
425.12	1.2	Body	13	3.7	32+	20109	7436
425.13	1.2	Body	13	3.9	30+	20109	7421
425.14	1.2	Fragment	-	4.7	-	20109	7436
425.15	1.2	Fragment	-	-	-	20109	7436
425.16	1	Body	15	5.6	22+	20109	7436
425.17	1	Fragment	-	4.8	-	20107	7411
425.18	1	Fragment	13+	5.4	-	20109	7421
425.19	1	Fragment	-	-	-	20109	7436
425.20	1	Fragment	-	-	-	20107	13181
425.21	2	End (sa)	13	3.7	32+	20109	7436
425.22	2	Body	13	4.1+	21+	20109	7421
425.23	2	Fragment	10+	3	14+	20107	7411
425.24	2	Fragment	9+	3.9	22+	20109	7421
425.25	2	Fragment	-	-	-	20109	7436
425.26	3	End (a)	10	5	93+	20109	7421
425.27	3	End (a)	9	3.8	11+	20109	7421
425.28	3	Body (two refitting pieces)	11	5.4	48+	20107	7411
425.29	4	End (a)	8	4.9	33+	20107	7411
425.3	4	End (a)	8	3.4+	-	20107	13181
425.31	4	End (s)	8	4.9	22+	20109	7436
425.32	4	End (s)	9	4	26+	20107	7411
425.33	4	Body	8	5.8	52+	20109	7436
425.34	4	Body	8	3.9	30+	20107	7411
425.35	4?	Body	8	4.5	25+	20107	13181
425.36	4?	Body	9	5.5	18+	20107	7411
425.37	4?	Body	8	4.6	24+	20107	7411
425.38	4?	Body	8	4.5	19+	20107	13181

Key: (a) angled end; (sa) slightly angled end; (s) straight end

the items were for the benefit of the deceased in the afterlife since the understanding of and belief in such a concept seems to be hugely variable in the Roman world. Alternatively, they could have been included for the benefit of those left behind, either by demonstrating grief, belief or wealth, or by protecting them from malign forces of the deceased. Roman funerary rites are so varied there can be no single explanation to cover them; instead, they reflect what has been called the 'highly individual needs of expressions of mourners' (van Driel-Murray 1998, 135).

For those with the means, funerals could be expensive events, potentially involving purpose-built furniture and expensive perfumes and clothing (Cool 2004, 441). Such cost is often not visible archaeologically. Expensive coffins made using the techniques applied in furniture-making would not use any nails, while civilian clothing, which rarely involved metal fittings after the end of the 2nd century, would have been worth much more than the majority of the surviving jewellery. Graves elsewhere in the Empire show that clothes and soft furnishings of considerable value were frequently included, both under and over the body, as well as wrapped around it as a shroud (Carroll 2012; Wild 2012, 136–7). The surviving pyre goods within Grave **20106** (hobnails and the pipe-clay figurine) are nothing outstanding and, had the

funerary bed been decorated with exotic wood veneer instead of bone, the presence of this expensive item of furniture would have gone unnoticed. While the rich were no doubt expected to have funerals to suit their status, expensive burials do not necessarily reflect the status of the deceased in life, since families could use expensive funerals as an indication of their love and grief.

Inhumations

Worn items

At Bainesse, as at other cemeteries, it seems that it was a fairly standard practice to bury the corpse fully dressed. However, due to the poor bone preservation, it is not always clear if items were being worn or just placed over or under the body in the appropriate position (Wild 2012, 21). In a burial at London Eastern Cemetery, hobnailed shoes were clearly laid at right-angles under the feet (Barber and Bowsher 2000, fig. 99) and there is a possible example of this at Bainesse (Grave **81**), while the shoes in Grave **61** were placed under or over one leg.

Due to the nature of male civilian costume and its lack of metal fittings, iron hobnails are often the only finds in male graves. In women's graves there can be additional jewellery, and amulets often appear in children's graves. Only one burial containing worn jewellery could be identified as that of a man, who wore two copper-alloy rings (Grave **20955**). Finger-rings were one of the few items of jewellery acceptable for men to wear, although this usually took the form of a signet ring. Here the man wore a simple copper-alloy ring on each hand.

Unworn items

The most common items found placed beside the bodies were nailed shoes. Numerous reasons have been put forward for this practice, including use for the journey to the underworld or for activities when there, provision for a return home, or simply because it was traditional, any original meaning having been long forgotten (Powell 2010a, 318). It may be that in some cases the shoes were sitting with a pile of folded tunics, mantles or capes, which do not survive in the archaeological record, and were part of a person's wardrobe with no additional individual symbolism. There was a possible example of this at Bainesse (Grave **16**).

Suggested reasons for including unworn items include placing familiar items in the grave to bring comfort to the dead, gifts to the gods to ensure the dead reached the underworld or symbolic dowries (Philpott 1991, 156–7). There could also be cultural rules against reusing certain personal possessions of the deceased, so that their clothing and jewellery had to be buried with them to avoid bad luck descending on the new owners. The additional ill-fortune brought on by premature death could explain why the young often have more grave goods than older people. The unworn possessions would also have been a demonstration of wealth, since funerals were public events and the corpse may not have been fully covered until the coffin was in the grave (Barber and Bowsher 2000, 93; cf. Cool 2010a, 309). Such displays of conspicuous consumption could also be a manifestation of extreme grief.

Items placed on body or coffin

Items added to the grave by mourners could include items intended for the benefit of the deceased in the afterlife (if believed in), as public proof of personal grief, or as an act of protection for the living. Two graves at Bainesse had iron bracelets placed on the body (Graves **194** and **198**) and it is possible these were chosen not as items of jewellery, but for religious reasons, their significance being that both were circular and made out of protective iron. This may be a 4th-century practice, as these are both 4th-century graves, as were two graves at Hollow Banks Farm that also had bracelets placed on the body, albeit copper-alloy examples (graves 11 and 12; Eckardt *et al*. 2015, 203–4). A shoe or shoes placed outside the coffin in Grave **20621** (7–12 years) may also have had some symbolic significance. Reasons for including shoes in a grave may have involved providing footwear for the journey to the underworld, for use in the afterlife, wishing for the deceased to return to the living, or as a very personal gift, due to the fact that the imprint of a person's foot shapes the sole (Philpott 1991, 173; van Driel-Murray 1998, 132 and 135).

Grave 20476 discussion

The individual in this grave is an unsexed adolescent, approximately 13–17 years old. The presence of the buckle would usually suggest a male, but the personal possessions placed beside the body are more typical of women, and in the late Roman period penannular brooches seem to be associated with women (Cool 2010a, 285). However, the brooch and finger-ring might well have been included in the grave because they were circular rather than because they were owned by the deceased. It is likely that this collection of items had some religious or magical association. Several of the loops had similarities with the those found in late 4th-century contexts at the shrine complex at Uley, Gloucestershire, where it was thought many of them were manufactured at the site and then used as votive offerings by worshippers (Bayley and Woodward 1993, 135). As well as plain annular and penannular loops, there were 'Class 1' rings with diamond cross-sections, like Cat. no. 95, and 'Classes III–IV' loops cast in a one-piece mould with a flat back, like Cat. no. 93 (Bayley and Woodward 1993, fig. 114 nos 5 and 10, fig. 115;

Henig 1993, fig. 132 nos 20–24 and 28–29). While the deposition of loops is not common on British religious sites, it was particularly common in France, where over 10,000 were found at the sanctuary at Chastelard les Lardiers alone (Kiernan 2009, 24–5).

A small collection of seven annular rings was found in the ritual burial of a decapitated dog in a cemetery in London, alongside beads, pendant and studs (Ridgeway *et al*. 2013, 13, figs 11 and 38–40). The studs suggested the presence of a collar, but five of the loops were stacked up on top of each other and may have been a separate element to the deposit. At Uley, Gloucestershire, it was suggested that circular objects, such as coins, loops and discs, were used in the cult of Mercury (Woodward and Leach 1993, 334), but it may be that circular objects had a more general spiritual significance. Explanations for the loops found at sanctuaries in France include their use as simplified wheels (which had their own religious significance) and as symbolic coins or jewellery (Kiernan 2009, 24). In many cultures, the circle represents the sun, the cycle of life, the concept of infinity, or of being whole or complete, while rings can additionally be seen as a symbol of enclosure and so also of guardianship and protection. Therefore, the loops in Grave **20476** may have had some religious significance for the deceased, or perhaps, considering the age of the individual, were intended as amulets, given that amulets are frequently associated with the young.

Cremation Burials

In cremation burials, it is impossible to distinguish between the three categories of grave goods, but almost certainly all three were present. As with inhumations, the body was likely to have been fully dressed, including jewellery for women, as evidenced at Brougham (Cool 2004, 438). Footwear, and no doubt clothing, could also be placed beside the corpse. In the Mediterranean region, it seems to have been normal for additional clothing to be added to the pyre, since Tacitus, by saying that the Germans did not do so, suggests that the Romans did, while the will of a man from Langres, France, included textiles in the list of possessions he wanted burnt with his corpse (Wild 2012, 19). That it was normal for mourners to put items on the pyre is suggested by Cassius Dio's description of Septimius Serverus' cremation at York, when he says, "as for the soldiers' gifts, those who had things at hand to offer as gifts threw them upon [the pyre]" (Dio Cassius 1927, 77.15). Although this was an Emperor's funeral, Dio seems to take it as read that the soldiers present would want to add their own offerings.

Personal adornment

Excluding footwear, almost all the surviving grave goods from Bainesse, *Cataractonium* and Scurragh House were items of personal adornment or amulets, which originated from 20 inhumations and four cremation burials. There were no gold or silver pieces, and the assemblage instead represents a range of items that were on the whole probably not very expensive. The number of items included in each grave was also low (see Table 8.12).

The most common category is the bracelet, made of copper alloy or iron, and possibly also of glass beads. There were none of precious metals, shale, jet or bone. The wearing of bracelets is generally most common in the late Roman period, reaching a peak in the 4th century (Cool 2010a, 297). The 293 burials at Brougham cemetery produced a total of two bracelets and it was assumed this was a reflection of the 3rd-century date of the cemetery (Cool 2004, 390). In contrast, almost all the bracelets from Bainesse and Catterick came from graves dating to the 2nd or 3rd centuries (Graves **119**, **235**, **6790**, and grave 1738 from previous excavations; see Mould 2002b, fig. 290 no. 76). Wearing bracelets before they became commonplace in the 4th century, and the popularity of anklets as jewellery, seems to be a distinct local regional fashion. The bracelet assemblage is also of interest in that there were no examples of the cable-twist style, which is by far the most common form of Romano-British bracelet.

Despite burials continuing into the 4th century at Bainesse, there were no examples of the typical 4th-century 'light bangle', nor the large collections of unworn jewellery that are characteristic of this period elsewhere, such as the 16 pieces of jewellery from a grave at South Shields Fort (Croom 1994, fig. 5). This may be because in the 4th century, jewellery in burials is most commonly associated with juveniles and very few non-adults were buried at Bainesse during this period.

The second most common form of jewellery found in the graves was anklets, which are found in both 3rd- and 4th-century graves. The six burials (Table 8.2) that included anklets from Bainesse, *Cataractonium* and Scurragh House almost equal the number recovered from graves in the whole of the rest of the country. The wearing of anklets therefore seems to have been a local trend, if the quantity of anklets including as grave goods accurately reflects their popularity in life.

Apart from jewellery, there are no other typically 'female' grave good types, such as spindle-whorls, hairpins and (possibly) combs.

Grave goods in male graves

Other than footwear, there were few archaeologically visible grave goods from male graves. There does not seem to have been a male equivalent to the jewellery

Table 8.12: the personal adornment and amulets from inhumations and cremations.

Type	No.	Total
Brooches		2
P-shaped	1	-
Penannular	1	-
Necklaces		2
Jet and glass beads	2	-
Armlets		1
With spiral and sliding knot	1	-
Bracelets		10
Cast penannular	2	-
D cross-section	1	-
Diamond cross-section	1	-
Plain wire hook and eye	2	-
Iron	4	-
Finger-rings		5*
Spiral	1	-
Annular	3	-
Iron	1	-
Anklets		5
Plain wire, loose knot	2	-
Plain wire, sliding knot	1	-
Torc-twisted, sliding knot	2	-
Amulets		8
Bracelet/necklace with beads	4	-
Without beads	4	-
	Total	**33**

Key: * includes two unworn items which are not certainly finger-rings

included in female graves, and there were no late 'military'-style burials, as seen at Hollow Banks Farm (Eckardt *et al.* 2015). The only burial that could possibly be classified as military was a 3rd-century cremation deposit with a cloak brooch in it (Grave **272**), although the use of a bone-decorated funerary bed might also have been a fashion for 3rd-century military families (Grave **20106**).

Amulets

The three sites were also distinctive in having a large number of graves containing amulets (Table 8.14). They were found in seven inhumations and one cremation burial. Although the majority of the amulets came from burials with poor or non-existent bone preservation, the size of the graves suggests most were for infants or juveniles. This association with the young is common throughout the country (see Crummy 2010 for examples). The choice of amulets is varied, but does include some rare provincial *bullae*, which were more common on the Continent than in Britain.

LATE ROMAN/ANGLO-SAXON BURIALS

Alexandra Croom and Elizabeth M. Foulds

INTRODUCTION

A small number of graves across the A1 scheme have been dated to the end of the Roman period and Anglo-Saxon period by radiocarbon dating. Three of the burials (Graves **175**, **31507**, **31532**) were clearly a part of a later tradition, as the radiocarbon dates were firmly post mid-

Table 8.13: the type and quantity of jewellery found in inhumation burials.

Grave	Brooch	Ring	Bracelet	Armlet	Anklet	Necklace	Bead	Amulet	Sex	Age
16	-	-	-	-	1	-	-	-	F	46+
35	-	-	-	-	1	-	-	-	?	18+
103	-	-	-	-	-	-	-	Y	?	?
119	-	-	1	-	2	-	-	-	F	26–35
130	-	-	-	1	-	-	-	-	?	18+
147	-	-	-	-	-	-	-	Y	?	(Juvenile)
149	-	-	2	-	-	-	-	-	?	?
150	-	-	-	-	-	-	-	Y	?	(Juvenile)
180	-	-	-	-	-	-	-	Y	?	(Juvenile)
188	-	-	-	-	-	-	1	-	?	?
194	-	?*	1*	-	-	-	-	-	?	3–4
198	-	-	1*	-	-	-	-	-	M?	26–35
203	-	-	-	-	-	-	-	Y	?	(Juvenile)
221	-	-	-	-	-	-	-	Y	?	(Juvenile)
235	-	-	2	-	-	Y	-	-	?	3–5
10827	-	-	-	-	-	Y	-	-	?	?
11808	-	-	-	-	1	-	-	-	?	18–25
20198	-	-	1	-	-	-	-	-	F	18+
20476	1*	2*	-	-	-	-	-	-	?	13–17
20955	-	2	-	-	-	-	-	-	M	36–45

Key: * = not worn. Ages in brackets taken from grave-length.

6th century AD onwards. The other five burials (Graves **185**, **187**, **209**, **216**, and **217**) yielded radiocarbon dates that suggested the individuals died as early as the early 5th century. Thus, these individuals would have lived during the transitional phase, as the Roman Empire's rule ended in Britain. The impact that this had on the people buried in the Bainesse Cemetery is unclear, as the objects included in these graves follow the established pattern reflected in the rest of the inhumed population. The inclusion of hobnailed shoes in both Grave **216** and **217** easily fits in with the established pattern and tradition of burying individuals with shoes at Bainesse Cemetery, although the decapitation of the individual from Grave **217** reflects a known late Roman period practice.

Overall, the artefacts recovered from six of these inhumations were small in number. In addition to the two graves with hobnailed shoes mentioned above, one had an iron strip of unknown purpose (Grave **175**), and another had a copper-alloy stud that may have been an unintentional inclusion (Grave **209**). Grave **31507**, thought to date from the mid-6th to mid-7th century, was unusual compared to the other graves, as three glass beads and an iron buckle from a belt were recovered from it. Two burials included no surviving grave goods (Graves **185** and **31532**).

DRESS AND PERSONAL ADORNMENT

Three beads were recovered within a disturbed inhumation (Grave **31507**) at Scotch Corner. The beads consisted of a short translucent blue biconical type (Cat. no. 431), a short blue cylinder bead (Cat. no. 433), and a short green cylinder bead (Cat. no. 432). Although the short biconical bead type is known in Roman contexts, the other two beads are more unusual in size and shape. They are characteristic of the Anglo-Saxon period and the radiocarbon date for the skeletal remains confirms this, suggesting a mid-6th to mid-7th-century AD date (SUERC-73025, GU43710). The inclusion of beaded necklaces and strands connecting brooches in Anglo-Saxon inhumations is well documented (e.g. West Heslerton, Sewerby). Small numbers of beads are known to occur in Anglo-Saxon graves, as at West Heslerton (Haughton and Powlesland 1999), but these graves are often heavily disturbed by ploughing or truncated by later features. It is not clear if the inclusion of three beads in Grave **31507** was intentional, or if only three beads remain after later disturbance, possibly due to ploughing.

Grave **31507** produced a small iron buckle from a belt (Cat. no. 434). It is a narrow D-shape, with the bar slightly narrower than the loop. This type is a common mid- to late Anglo-Saxon form, but examples are also known from early to mid-Anglo-Saxon graves (Hirst 1985, fig. 35, G10.2; Sherlock and Welch 1992, fig. 39, G32.2). A short fragment of iron with a rectangular cross-section was also found in the grave. This may be just a piece of nail but could also possibly be the remains of a strap end (cf. Sherlock and Welch 1992, fig. 33, G2.3). The position in the grave shows the belt was being worn and that the corpse was dressed for burial.

FOOTWEAR

Over 85 hobnails were recovered from Grave **217** (male, aged 26–35) and 69 from Grave **216** (unsexed adult), dated to cal AD426–566 (at 95.4% confidence; 1550±25 combined, based on SUERC-20369/GU-17288 and SUERC-39626/GU-26851) and cal AD421–570 (at 95.4% confidence; 1555±30 BP, SUERC-74409/GU44475) respectively. Hobnails are much less common in 4th-century graves on the site, so these two are unusual. Hobnails in a potentially post-Roman context have also been found at Parlington Hollins, Leeds, in the grave of an adult probable female who, like Grave **217**, had been decapitated (grave 883). Radiocarbon dating provided a date of cal AD400–670 (Duncan 2001, 185).

Table 8.14: amulets in burials.

Grave	Artefacts	Location	Age and gender	Grave size
103	Bulla, sphere, beads	Spaced out in rough circle towards centre of grave	Non-adult	c.0.8m
148	Pierced coin, lead disc, loop, dog's tooth	Together towards end of coffin; in bag?	-	0.8m+, truncated
150	Bulla	Approximately third of way down grave	-	c.1.4m
180	Phallic pendant, beads	Together towards one end of grave	-	c.1.3m
203	?Phallic pendant; beads	Together near centre of grave	-	1.0m+, truncated
221	Pierced coin, beads, polychrome bead	Together to one side of grave, towards centre	-	c.0.9m
269	Pierced coin	On cremation vessel	Infant/Young Juvenile	-
20476	Group of circular objects	Beside skull, in bag?	Unsexed, 13–17 years	-

The presence of the hobnails makes it most likely that all three burials were from the first half of the 5th century rather than later, since hobnailed shoes were a Roman fashion that were not used by any of the other cultures present in Britain during the early medieval period. The manufacture of hobnails favours bulk production for economy of scale, since around 200 are required for each pair of shoes. Despite the cost of producing the nails, they were strictly functional items that were invisible when in use, and as such were not a status symbol, and it is unlikely individuals specially commissioned them. The presence of hobnailed shoes in these graves indicates that a market large enough to support blacksmiths producing hobnails, as well as cobblers with the specific knowledge required to make nailed rather than sewn footwear, still existed at the time of the burials.

INHUMATION GRAVE FURNITURE

Only two burials had evidence for grave furniture. Grave **217** had a partial stone lining and Grave **209** had a coffin indicated by at least 35 iron nails and a small anchor-headed T-clamp (Cat. no. 438). The T-clamp was found on the line of the right-hand side of the coffin, near the head, in Grave **209**. Traces of wood with horizontal grain survived on the lower part of the shank, although the upper 20mm had none. Similar shaped T-clamps with curved arms were used to attach one shaped bit of wood to another, but as only one was found in Grave **209** it is possible it came from a reused bit of timber, or perhaps had a similar role to the loops used elsewhere on coffins.

UNCERTAIN FUNCTION

Grave **175** contained an adult older than 36 years, which was probably female. Over the skull was a narrow strip of iron, with the ends turned down (Cat. no. 439). Its use was uncertain. Grave goods were rare during this period and the arms were too short for this to have served as a wood staple.

A single, small decorative copper-alloy stud found outside the stone packing in Grave **209** (Cat. no. 440) may have been an unintentional inclusion.

DISCUSSION

With so few burials that can be dated to the late Roman and Anglo-Saxon period, and fewer still with grave goods, it is difficult to draw any conclusions. The graves at Bainesse are not surprising, given that there are other known Anglian burials in the area (see Chapter 1) and their presence highlights the further research potential for understanding the post-Roman period in Yorkshire.

CATALOGUE

Personal adornment

431 Wrapped translucent blue short bicone bead. Complete. Glass. Diam.: 8.2mm, H: 6.4mm, Perforation diam.: 3.4mm. Field 265, Grave 31507, Context 31509, RF13015. Figure 5.40.

432 Wrapped translucent green cylinder bead. Complete. Glass. Diam.: 7.1mm, H: 6.2mm, Perforation diam.: 3.6mm. Field 265, Grave 31507, Context 31509, RF13014. Figure 5.40.

433 Wrapped translucent blue cylinder bead. Complete. Glass. Diam.: 7.4mm, H: 4.6mm, Perforation diam.: 3.8mm. Field 265, Grave 31507, Context 31509, RF13013. Figure 5.40.

434 D-shaped iron buckle with sub-rectangular cross-section. H: 24mm, W: 13mm, B: 4mm. Mid- to late Anglo-Saxon. Field 265, Grave 31507, Context 31509, RF13016. Figure 5.40.

Footwear

435 Nailed shoe with a minimum of 69 hobnails. Diam: 10–1mm, MTh: c.7mm. Field 163C, Grave 216, Context 12764, RF10528. Not illustrated.

436 Nailed shoes with a minimum of 85 hobnails. Diam: 10–2mm, MTh: 10mm. Field 163C, Grave 217, Contexts 428 and 441, RF13702, RF13703. Not illustrated.

437 Two hobnails. Diam: 10mm. Field 163C, Grave 187, Context 12587 (and sample AA), RF13701. Not illustrated.

Inhumation grave furniture

438 Iron anchor-headed T-clamp. L: 53mm, W: 31mm, Th: 11mm. Field 163C, Grave 209, Context 13065, RF11661. Figure 3.149.

Uncertain function

439 Narrow iron strip of rectangular cross-section with both ends bent down. L: 72mm+, W: 6mm, Th: 2mm. Field 163C, Grave 175, Context 13162, RF11727. Figure 3.110.

440 Small copper-alloy stud with flat head and short tapering shank. Diam: 12.5mm, H: 5mm. Field 163C, Grave 209, Context 13036, RF11378. Figure 3.149.

OTHER ARTEFACTS FROM GRAVE BACKFILLS

While many of the artefacts from the burial contexts were clearly intentional deposits, the intentional deposition of a number of finds was significantly less clear. It is

likely that they were unintentionally included through non-deliberate acts or disturbance of earlier activity. This section provides an overview of the vessel glass, beads, querns, lithics, ceramic building material, and industrial waste found within burial contexts, although the majority of these finds will be considered further in future monographs in this series. Full data for these sections is available on the Archaeological Data Service in Appendix I.

SMALL FINDS IN VARIOUS MATERIALS

Alexandra Croom

A small number of finds recovered from grave backfills could not be clearly identified as intentional inclusions with the deceased individual. The majority of these objects were iron nails or hobnails. A summary by grave is presented in Table 8.15.

BEADS

Elizabeth M. Foulds

One bead was found associated with grave backfills. Approximately a quarter of a faience melon bead (RF7061; not catalogued) fragment was found in the fill of an infant inhumation (Grave **9343** at Brompton East). Given the nature of the fill and the small size of the bead fragment, it is likely that its presence can be attributed to the disturbance of earlier deposits. However, there does remain a chance that, due to the proximity of the find next to the infant's head, it was deliberately included.

VESSEL GLASS

H. E. M. Cool

The only vessel glass fragments recovered from burial contexts at Bainesse Cemetery were all found in the fill of Grave **183**. They consisted of pieces from a cylindrical cup (Cat. no. 441), a globular flask (Cat. no. 442) and rim, and handle and base fragments from at least one prismatic bottle (Cat. nos 443–445). The cup is an example of a very common form with a double cylindrical base ring normally found in colourless glass (Isings Form 85; Price and Cottam 1998, 99–101). They were in use during the final third of the 2nd century, possibly appearing very slightly earlier, and continued in use until the mid-3rd century. Blue/green examples, such as Cat. no. 441, are less commonly encountered, but have been found previously in Catterick, for example at the Catterick By-Pass site (Cool and Price 2002b, 225, nos. 52–3) and at Bainesse site 46, excavated in the 1980s (Cool and Price 2002c, 246 no. 17). The fragments that form Cat. no. 442 are consistent with coming from a globular flask with a maximum body diameter of c.120mm. This is a simple long-lived form. The blue/green colour would indicate a date within the 1st to 3rd centuries. The base does not appear to have had a pontil scar, which would suggest it was unlikely to have been made after the middle of the 3rd century. The bottle fragments (Price and Cottam 1998, 194–200) can be dated to sometime within the later 1st to earlier 3rd century period. All three vessels could thus have been in use during the later 2nd and earlier 3rd century.

This is a somewhat odd assemblage of fragments. Glass was rare at Bainesse Cemetery, even outside of the burial contexts; therefore, they can scarcely be regarded as casual inclusions. Equally, if the material was a casual inclusion, it is surprising that no other grave contained any fragments of glass and that all the fragments of the bottles are recognisable rim, handle and base fragments. Prismatic bottles were an extremely common form and it is likely that the parts represented would have been easily identifiable by their users and not just to modern glass specialists. Body fragments, although immediately diagnostic to the modern specialist, might have been less identifiable to the users. A bottle glass assemblage will normally be dominated by the body fragments so there does appear to be the distinct possibility that deliberate selection was being practiced. Quite what the motive was is unclear. Leary notes (Chapter 7) that Graves **64** and **81** contained incomplete pottery vessels. Possibly the selection of glass fragments in Grave **183** should be viewed alongside whatever rituals or processes that resulted in the presence of these incomplete pottery vessels and even the presence of fragments from the same pottery vessel in both Graves **205** and **206**.

A small number of glass vessel fragments were found in other burials across the scheme. The full data are available via the ADS.

Catalogue

441 Cylindrical cup, rim fragment. Blue/green. Vertical rim with fire-rounded edge, thickened internally, straight side. Rim Diam: 80mm, wall Th: 1.5mm, present H: 21mm. Weight 2.7g. Field 163C, Grave 183, Context 12717, RF12039. Not illustrated.

442 Globular flask, 14 body and one base fragment joining in several groups of two and three. Blue/green, weathered surfaces, large bubbles. Broken at neck/body junction, convex-curved body, concave base. Neck Diam: c.30mm, base Diam: c.45mm, wall Th: 1–2.5mm. Weight: 38.7g. Field 163C, Grave 183, Context 12717, RF12040. Not illustrated.

443 Bottle, rim and handle fragment. Blue/green. Rim edge bent out, up, in and flattened; underside of rim retains part of folded upper handle attachment. Rim Diam: 55mm, neck aperture Diam: c.15mm. Weight: 18.5g. Field 163C, Grave 183, Context 12717, RF12041. Not illustrated.

Table 8.15: summary of non-grave/pyre goods from grave backfill.

Grave No.	Copper-alloy object	Hobnail (minimum)	Iron nail	Iron other	Other
Bainesse Cemetery					
37	-	-	Yes: X2 (RF10509, RF10510)	-	-
43	-	-	Yes: shank (RF760)	-	-
44	Very small, fragmentary stud? (RF11126)	-	-	-	-
45	-	-	Yes: shank	-	-
56	-	-	Yes: x1 (RF703)	-	-
67	Small wire fragment (RF12864)	-	-	-	-
68	-	-	Yes: shank (RF713)	-	-
73	-	Yes: shanks	-	-	-
82	Small thin sheet fragment (RF11143)	-	Yes: x1 nail and x1 shank (RF11123, RF11129)	-	-
88	-	-	Yes: x3 nails and x4 shanks (RF11285, RF11286, RF11287, RF11288, RF11289, RF11290, RF11291)	-	-
115	-	-	Yes: x1 nail	-	-
122	-	-	Yes: x2 nails (RF11368, RF11369)	-	-
124	-	-	Yes: x1 nail (RF714)	-	-
141	-	-	Yes: x2 nails (RF11227, RF11228)	-	-
149	-	-	Yes: 1 nail (RF697)	-	-
160	-	Yes x1 (RF13690)	-	-	-
167	-	-	Yes: x4 nails (RF10533, RF10534, RF10535, RF10536)	-	-
168	-	-	Yes: x2 nails (RF10489, RF10496)	-	-
176	-	-	Yes: shank	-	-
179	-	-	Yes: x5 nails	-	-
197	-	-	Yes: x1 nail (RF11725)	-	-
198	-	-	Yes: x1 nail (RF11768)	-	-
206	-	-	Yes: x2 nails and x1 shank (RF11213, RF11214, RF11215)	-	-
207	-	Yes: x1 (RF13693)	-	-	-
208	-	-	Yes: x2 nails (RF11766, RF11767)	-	Possibly the whetstone/polisher (RF111397)
217	-	-	Yes: x5 nails (RF13710-14)	-	-
218	-	-	Yes: x3 nails (RF688)	-	-
263	-	-	Yes: x2 nails and x3 shanks (RF593, RF598, RF599)	-	-
265	-	-	Yes: x1 nail	-	-
13435			Yes: x3 nails (RF13678)	Iron hinge pivot (RF13679)	

Table 8.15 (cont.): summary of non-grave/pyre goods from grave backfill.

Grave No.	Copper-alloy object	Hobnail (minimum)	Iron nail	Iron other	Other
Cataractonium					
1225	-	-	Yes: shank	-	-
6729	-	-	Yes: x3 nails (RF6518)	-	-
6785	-	-	Yes: x2 nails and x1 shank (RF11410, RF11411)	-	-
20114	-	-	Yes: shank	-	-
20418	-	-	-	Short fragment of thin wire (RF13725)	-
20474	-	-	-	-	Incomplete bone pin, Greep type A2.2 (RF7585); incomplete pierced pottery disc (Fabric OBA5; RF13674)
20601	Rod fragment (RF12842)	-	-	-	-
20606		-	Yes: x1 nail (RF7656)	-	-
21162	-	Yes: x4 (RF13676)	-	x2 ringmail links (RF13675)	-
Scurragh House					
7859	-	-	Yes: shank	-	-
7888	-	-	Yes: shank (RF13641)	-	-
10712	-	Yes: x1	-	-	-
11813	-	Yes: x2 (RF13631)	Yes: shank (RF13637)	-	-
Scotch Corner					
31507	-	-	Yes: x1 nail (RF13017)	-	-

444 Prismatic bottle, handle fragment. Blue/green. Central part of lower reeded handle retaining part of shoulder and edge of side. Dimensions: 42 x 34mm. Weight: 14.5g. Field 163C, Grave 183, Context 12717, RF12042. Not illustrated.

445 Prismatic bottle, base fragment. Blue green. Base design—parts of two concentric circular mouldings. Dimensions: 26 x 20mm, Diam of outer moulding: c.80mm. Weight: 5.8g. Field 163C, Grave 183, Context 12717, RF12043. Not illustrated.

QUERNS

John Cruse

Four small broken fragments of lava stone (weighing 62 grams) that almost certainly derive from a fragmented quern were found in the fill of Grave **20106**. No diagnostic surfaces were present. They are assumed to be residual, as the deliberate deposition of Romano-British querns as grave goods is rarely reported.

LITHICS

Frederick W. F. Foulds

Evidence for flint knapping activity was found within burial contexts across the A1 scheme, with the exception of those from Scurragh House. The prehistoric activity across the scheme will be discussed in a separate publication. The data that supports the discussion presented here is available via the Archaeology Data Service.

No lithic artefacts were directly associated with Bronze Age cremation (Grave **10003**) at Bowbridge Lane (Field 145) and the majority of the worked flint from this location was not associated with possible funerary-related features. However, five lithic artefacts were recovered from the fill of pit **10021**, providing evidence of core working that consisted of two flakes, a distal end fragment of a bladelet, a flake fragment and a piece of indeterminate waste. Pit **10065**, which also contained evidence of calcined bone, produced another possible

distal end fragment of a chert bladelet. Pit **10108** contained a small flake and a large piece of angular shatter, possibly from a core, which had been retouched to form a crude endscraper, probably of Late Bronze Age date. These latter artefacts accompanied a pottery vessel, although no cremated bone was found in this feature.

A total of 55 lithic artefacts were found associated with 28 of the burials recorded in the Bainesse Cemetery, accounting for c.10% of the total number of burials within this area. For the most part, lithic material was recovered from graves across the site, with a high component of naturally fragmented material also recovered from sampling (Foulds 2017b). There appears to be no spatial patterning present in regard to the recovery of the worked material. Most represented indeterminate waste that was tentatively classified as debitage (n=50; 91%), as well as several chips and spalls, although natural origins for most of these pieces cannot be ruled out. The majority of the finds measured under 20mm and were recovered from sampling. Only five definitively worked lithic artefacts were recovered, including three flakes and two cores. All of these are considered to be residual evidence of flint working, with diagnostic artefacts suggestive of a Mesolithic or Neolithic date.

Eight lithic artefacts were recovered from six of the Roman burials found within *Cataractonium*. These were restricted to burials found within Fields 172 and 178, although it should be noted that these two locations are on opposing sides of the River Swale. Again, these consisted of flakes and debitage (chips, spalls and indeterminate fragments) that are suggested to originate from knapping activity and are likely to be residual in nature. All of the recovered material was under 20mm in size.

Discussion

In almost all cases, the lithic artefacts are interpreted as residual worked material that was incorporated into the backfills of the burials. These artefacts represent wider prehistoric activity and flint knapping prior to the Roman occupation at *Cataractonium* and its surrounding area.

Caution is due in regard to the identified debitage products, particularly in relation to the Bainesse Cemetery. Given the large volume of naturally fragmented flint and chert recovered alongside the material identified as worked, it is possible that at least some, if not all, of the identified debitage may be natural in origin. However, material was only classified as debitage where clear potential for human modification could be identified.

Although limited worked lithic material was associated with the prehistoric burials at Bowbridge Lane, some attention must be paid to the Late Bronze Age scraper found within pit **10108**; while a residual origin for this tool cannot be ruled out, it may have been intentionally deposited alongside the cremated bone recovered from this feature.

CERAMIC BUILDING MATERIAL

Chrystal M. L. Antink and David Griffiths

Ceramic building material (CBM) was found in 17 contexts related to 16 different burials across the scheme. This amounted to 65 fragments in total, which were recorded and weighed a total of 445g. The results are discussed below by area and results are summarised in Table 8.16.

A total of 29 fragments of CBM, weighing 23g, was recovered from eight burials at Bainesse Cemetery and the nearby Grave **13420** in Field 159A. None of the fragments could be satisfactorily identified to a specific form. The single 15g fragment from Grave **13420** was suggested to be tile on the basis of a single finished face but lacked any complete dimensions or further detectable characteristics. The remainder were too small and featureless to be assigned a form or fabric.

An assemblage of 36 fragments of CBM were recovered from burial contexts at *Cataractonium*, which weighed 422g in total. A small number of Roman forms were identified, although a sizeable amount of material was undiagnostic. Three discrete fabrics were recorded, though due to the size of the assemblage no significant trends were discernible.

Two fragments of the same fabric were identified as either an imbrex or possible imbrex based on the curve of the tile fragment and finish on remaining edge and top face, which were found in Graves **20662** and **20601**. The other identifiable fragment was possibly from a tile (defined as a flat object whose two parallel faces were no more than 29.9mm high) from Grave **1225**. Since bricks are defined as having parallel faces that are greater than 30mm, this definition will mask some forms (e.g. *tegulae* and box flues), as the main bodies have been shown to span these measurements (McComish 2012). Thus, they cannot be positively identified when fragmented.

No obviously modern material was identified. The majority of the undiagnostic fragments weighed less than 10g, no fragments joined one another across contexts, and many were well worn. The significantly higher occurrence of CBM making up ground in this area when compared to Bainesse was demonstrative of the character of the site generally and does not imply any particular relationship with inhumations.

Discussion

Ceramic building material was recovered from a small

number of the burial contexts under discussion. These specific assemblages have similar attributes to others in the surrounding excavations. It is therefore likely that none of the CBM had been deliberately associated with human remains, either as grave goods or part of their structure, as has been found at other sites (Philpott 1991; Barber and Bowsher 2000; Poole 2010).

INDUSTRIAL WASTE

David Starley

Approximately 10.8kg of ferrous industrial waste was collected from contexts containing human remains (Table 8.17). The majority of this was hand-collected, but there was also a large amount of material that had been retrieved through environmental sampling, due to the sampling strategy. Contexts associated with inhumations and cremation burials frequently contained hammerscale from iron smithing. It is suggested that this is most frequently due to intrusive contamination in an area where iron smithing was a major activity. By far the majority of contexts contained relatively few flakes of hammerscale, perhaps representing a background of ironworking that had taken place in the area, but for which the debris had been widely dispersed. However, some contexts produced substantial quantities of hammerscale, which suggested that some of the areas used for burials may have once also been associated with metal working.

The Bainesse area produced a small debris assemblage, which totalled 63.7g and included a small amount of undiagnostic ironworking slag, hammerscale, and other debris. Hammerscale was recovered from 137 burials, some of which may be intrusive as there was only a few flakes or spheres. However, hammerscale was found in greater quantities from a number of grave fills (e.g. Grave **11**, **12**, **72**, and **165**). Coal and its waste product, clinker, were found as tiny fragments in grave fills, generally along with hammerscale. Intermediate, between these categories, part-burned coal may not be distinguishable from commercially produced coke. Whilst coal was used for smithing in the Roman period (Dearne and Branigan1995), it may relate to other heating activities. Such fuel waste is not an uncommon find on agricultural land due to the use of coal-fired agricultural machinery or the disposal of domestic hearth waste of more recent years. A small amount of fired clay (14g) was also found in seven grave fills, although it may not be derived from metallurgical activity.

Much of the evidence for metallurgical or high temperature activity found in grave contexts from the *Cataractonium* area was found in such small quantities that these activities did not likely occur in the immediate area. The exception is the assemblage from Brompton West (Field 177/178), where fired clay, hammerscale, and undiagnostic ironworking slag found in burial

Table 8.16: summary of ceramic building material from grave backfill.

Grave No.	Form	Fabric code	Count	Weight (g)	Length (mm)	Breadth (mm)	Height (mm)	Corners	Edges
Bainesse									
11	Undiagnostic	-	2	1	-	-	-	-	-
71	Undiagnostic	-	6	-	-	-	-	-	-
156	Undiagnostic	-	1	-	-	-	-	-	-
191	Undiagnostic	-	3	-	-	-	-	-	-
225	Undiagnostic	-	13	7	-	-	-	-	-
264	Undiagnostic	-	2	-	-	-	-	-	-
272	Undiagnostic	-	1	-	-	-	-	-	-
13420	Tile?	8	1	15	-	-	19	-	-
Cataractonium									
1225	Tile	15	1	128	-	-	26	-	-
	Undiagnostic	-	2	1	-	-	-	-	-
20114	Undiagnostic	-	5	-	-	-	-	-	-
20159	Undiagnostic	-	4	1	-	-	-	-	-
20532	Undiagnostic	-	5	1	-	-	-	-	-
20571	Undiagnostic	-	5	-	-	-	-	-	-
20601	Imbrex?	8	1	15	-	-	8	-	-
	Undiagnostic	-	1	-	-	-	-	-	-
20662	Imbrex	8	1	273	-	-	17	-	1
	Undiagnostic	-	6	3	-	-	-	-	-
20812	Undiagnostic	-	5	-	-	-	-	-	-

Table 8.17: summary of evidence for metalworking and other high temperature processes in grave backfill.

	Weight (g) by field area							
	Bainesse area			Cataractonium				Scurragh House
Typology	**159A**	**163C**	**163E**	**172**	**179**	**174/176FB**	**177/178**	**209–211**
Iron smithing								
Flake and spheroidal hammerscale	<1	8.7+	<1	-	0.2	0.2	6.5+	-
Flake hammerscale	<1	<<1	<<1	<1	-	<<1	<1	<<1
Spheroidal hammerscale	<<1	<<1	-	<1	-	-	<<1	<1
Undiagnostic ironworking								
Ferruginous concretion	-	-	-	-	-	-	<<1	-
Undiagnostic ironworking slag	-	36	-	-	-	-	4	-
Non-ferrous metalworking								
Copper-alloy fragment	-	<1	-	-	-	-	-	-
Metalworking or other high-temp process								
Fired clay	14	<1	-	10555	8	1	92	28
Fuel								
Coal	-	2	-	-	-	-	<<1	5
Clinker	-	2	-	-	-	-	1	1
Coke/clinker	<1	1	-	14	-	-	-	1
Fuel Ash slag	<1	-	-	-	-	-	-	-
Iron								
Iron artefact or working waste	-	-	-	1	-	-	27	-
Grand Total	**14**	**49.7**	**<1**	**10570**	**8.2**	**1.2**	**130.5**	**35**

contexts likely indicates that ironworking occurred in the area.

Discussion

Visual analysis of the possible industrial debris from contexts associated with human remains found evidence for iron smithing, but not iron smelting. By weight, the biggest contributor to this assemblage was fired clay. This was generally fragmentary, exhibited no exterior surfaces and could have derived from a number of processes, not least of which could have been the cremation burials. However, in other areas, such as at Brompton West (Field 178), where fired clay was found along with fayalitic slags in contexts associated with inhumations, a stronger case can be made for it deriving from the hearths used for iron smithing. Coal and clinker (partially burnt coal) were regular finds. There was enough co-location with metalworking debris to suggest that this fossil fuel was used for iron smithing, and this is not uncommon on sites of Roman date (Dearne and Branigan 1995). However, the frequency of tiny fragments from environmental samples may indicate that it is intrusive and the result of later historical activity. The strongest indication that ironworking was a major activity across the area of excavation came from the hammerscale. Whilst iron smithing was clearly an important activity, its association with the burial environment is not easy to interpret. Further analysis in connection with the non-funerary evidence will be explored in forthcoming volumes (Fell forthcoming; Ross and Ross forthcoming).

CONCLUSION

Artefacts found in burials from across the A1 scheme represented three different major periods in activity along the A1 motorway corridor. Grave goods from prehistoric burials consisted of a single Early Bronze Age burnt pin from a cremation burial, which is consistent with a similarly dated grave good assemblages of this period. The Roman finds made up the majority of the grave goods assemblage with a similar range, in terms of diversity and quantity of objects, as seen in other cemeteries, urban burials, and rural 'back plot' burials. Combined with remains for nailed coffins and other funerary structures in the case of inhumations, and the nails and veneer evidence from cremation burials, the cumulative evidence supports the theory that at least a small number of the burials would have been spectacular displays. A small number of finds were recovered from Anglo-Saxon burials, some of which displayed some degree of similarity or affinity with Roman material culture (e.g. hobnailed footwear and one of the glass beads). The patterns and implications of material culture found in the Roman graves is explored further in Chapter 11.

CHAPTER 9
ENVIRONMENTAL REMAINS

Elizabeth Wright, Hannah Russ and Jonathan Baines,
with contributions from Lynne F. Gardiner

ANIMAL REMAINS

MAMMALS, BIRDS AND AMPHIBIANS

Elizabeth Wright

Introduction

During the A1 scheme excavations, a total of 115 'countable' hand-collected animal bones and teeth were recovered from grave contexts, with an additional 48 specimens from soil samples relating to burial features. The data presented in this chapter includes only those remains from grave contexts (all described as grave fills). As a result, this represents only a small portion of the total number of animal bones and teeth recovered from the scheme as a whole. Therefore, a summary analysis of the remains has been undertaken here. The faunal material presented here will be analysed further as part of the wider assemblages from the A1 scheme excavations as part of forthcoming monographs in this series (Fell forthcoming; Ross and Ross forthcoming).

Methodology

As outlined in Chapter 1, all identified grave fill contexts on the scheme were 100% sampled and wet-sieved. Remains from samples are presented separately to hand-collected specimens in this report to reflect these two different recovery methods.

Material was identified using the reference collection held at Northern Archaeological Associates (Barnard Castle, UK), in addition to the use of identification atlases and papers (e.g. Schmid 1972; Barone 1976; Prummel 1988; Cohen and Serjeantson 1996; Tomek and Bochenski 2009). An attempt was made to distinguish between sheep (*Ovis aries*) and goat (*Capra hircus*) using methods outlined in Kratochvil (1969), Boessneck (1969), and Zeder and Lapham (2010). However, only one tooth could be identified to species. While some rodent remains were recovered, it was not possible to identify any of them to species. As a result, they have been grouped as 'small' (mice, shrews or smaller voles) or 'large' (rats and water voles). Similarly, it was not possible to identify the one duck specimen to species, so a comment has been made about its size (*Anas platyrhynchos*; mallard sized).

The material was recorded according to a selective diagnostic-zone recording protocol. This involved the recording of a pre-defined set of skeletal parts, defined as 'countable', which were then used in the quantification of species and body parts. Zones followed those laid out in Bertini Vacca (2012). The number of identified specimens (NISP) was calculated for each species, which was obtained by tallying the number of 'countable' identified specimens for each taxon identified. For likely placed 'grave goods', all specimens were recorded and any that fell outside of the elements or zones specified by the recording protocol were recorded as 'other' but not included in quantifications.

The fusion of post-cranial bones was recorded as 'fused', 'fusing' or 'unfused' (Albarella and Davis 1994) for all taxa where identifiable elements were present. Where possible, tooth eruption and wear information were recorded according to Grant (1982; cattle and pig) and Payne (1973; sheep/goat). Evidence of bone modifications, including butchery, pathology, gnawing and burning, was also recorded. Surface preservation was indicated as 'excellent', 'good', 'medium', 'bad' or 'awful'. Where possible, measurements were taken according to von den Driesch (1976), Davis (1992) and Albarella and Payne (2005). The full recording protocol is provided in Appendix J, available via the ADS.

Only minimal data analysis was performed on the assemblages from grave contexts due to the fact that they represent only a small portion of the remains recovered from the A1 scheme excavations and present very small sample sizes. Combined NISPs are provided for each of the burial areas discussed as part of this volume, and only remains thought to have had ritual significance are described in detail. There was not enough ageing, sexing or biometrical information to allow for an analysis of these data, although they will be included as part of a wider study of faunal remains recovered from across the A1 scheme (Fell forthcoming; Ross and Ross forthcoming). Raw data are provided as part of Appendix K.

In general, bone preservation in this part of Britain, and across the A1 scheme, is highly variable. For example, from the 249 possible graves at Bainesse, human remains were recovered from only 131, and many were in a bad state of preservation (see Chapter 6) In the case of the animal bone assemblage from the burial contexts studied for this monograph, the majority of the remains from both Bainesse and *Cataractonium* displayed medium or bad surface preservation (Fig. 9.1). It should be noted that

these two areas alone were selected for an investigation of surface preservation, as other areas yielded samples too small for an accurate analysis. The degree of surface preservation at Bainesse and *Cataractonium* suggests it is likely that the recovered remains represent only a small portion of what was originally deposited.

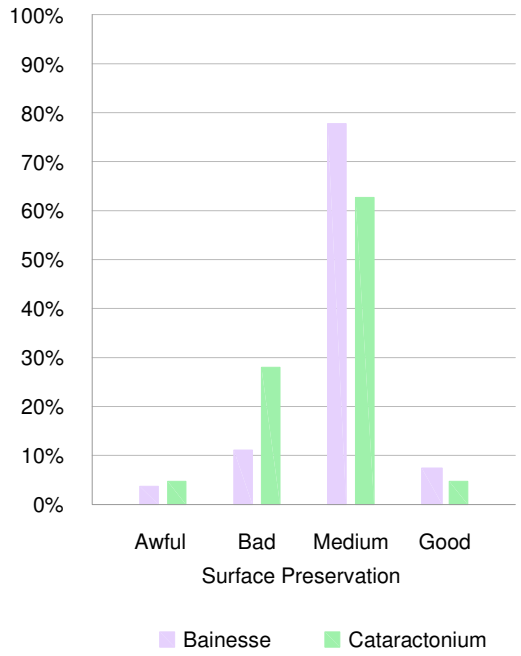


Figure 9.1: surface preservation of animal bone from burial contexts at Bainesse and Cataractonium.

Results

Prehistoric burials

Of the fields with prehistoric burials, only Bowbridge Lane (Field 145) contained any faunal remains from potential burial contexts. No animal remains were recovered from the one confirmed cremation burial from this site. However, two burnt fragments of long bone were recovered from a sample of the fill of pit **10021**, one of the suggested 'funerary related features' nearby. One of these was from a large-sized mammal and one from a medium-sized mammal, although it was not possible to identify species.

Roman burials

Bainesse Cemetery and surrounding area

The faunal remains recovered from burial contexts in Bainesse Cemetery (Field 163C) and within the wider Bainesse area (Fields 163E and 159A) amount to 35 countable specimens that were collected by hand, and a further 15 were recovered from samples (Table 9.1). Only four graves in the cemetery yielded faunal remains that were considered to have been ritually deposited within a grave (Table 9.2). All other remains were from grave backfills and are not considered to be related to funerary activity. Most species yielded very few remains, but sheep/goat, the most common taxon recovered, is represented by elements from across the body, including teeth, the forelimb and the hindlimb.

Possible placed deposits of faunal remains in graves

Four graves from Bainesse Cemetery contained faunal remains that may have been ritually deposited (Table 9.2). Inhumation Grave **148** contained a canid tooth (dog or fox) with copper staining. It was found alongside a number of copper objects, which together were likely to have represented some form of amulet or bag of charms (see Chapter 8). Inhumation Grave **240** contained a partial juvenile galliform skeleton. Due to the fact that it was a juvenile, none of the morphologically distinct elements were present, but the size suggests that this was in the range of chicken (Gallus gallus) or pheasant (Phasianus colchicus). As pheasant was rare in Roman Britain, the skeleton is most likely to be chicken. Similar to the *bustum* burial from Brough Park (Field 172, Grave **6790**), which also contains a partial galliform skeleton, this grave is suggested to approximately date to the 3rd century AD (see Table 4.12).

Burnt sheep/goat remains were recovered from two cremation burials (see Tables 9.2 and 9.3). The first, Grave **257**, contained a number of cremated bones from the hindlimb, including a pair of astragali and a pair of calcanei, most likely from the same individual. Two further cremated sheep/goat specimens were recovered from samples in Grave **264**; a third carpal and a third phalanx. As these are both accumulations of redeposited pyre debris, it is possible that these represent part of a larger portion or a whole animal that was originally burnt on the pyre. Burnt animal remains were also mixed in with the human remains in one further cremation burial (Grave **210**), but these were very few and unidentifiable. Therefore, they have not been included in Table 9.2.

Residual faunal remains from grave backfills

Bainesse Cemetery (Field 163C)

Aside from the faunal remains discussed above that are considered to be ritually deposited, cattle remains, consisting of loose teeth and a jaw from an adult individual (*sensu* O'Connor 1988), were also recovered as hand-collected specimens from Bainesse Cemetery, but are not considered to be related to funerary activity. In addition, a number of grave backfills contained small fragments of burnt bone, which could not be identified as human or animal.

Field 163E

Very few faunal remains were recovered from grave fills in Field 163E, with two specimens (representing cattle and sheep/goat) recovered by hand and two specimens (representing small rodent and amphibian) recovered from sample.

Table 9.1: faunal remains from grave fills in the Bainesse Cemetery area.

Bainesse (Fields 163C, 163E and 159A)	Cattle	Sheep/ goat	Pig	Dog/Fox?	Horse	Galliform	Small rodent	Large rodent	Amphibian	Total
	Bos taurus	*Ovis/ Capra*	*Sus domesticus*	*Canis/ Vulpes*	*Equus* sp.					
Hand-collected										
Mandible	2	-	-	-	-	-	-	-	-	2
Loose mandibular teeth	3	-	-	-	-	-	-	-	-	3
Loose maxillary teeth	-	2	3	-	-	-	-	-	-	5
Indet. loose teeth	-	-	-	1	1	-	-	-	-	2
Scapula	-	1	-	-	-	-	-	-	-	1
Humerus	-	-	-	-	-	1	-	-	-	1
Radius	-	-	-	-	-	-	-	-	1	1
Metacarpal	1	-	-	-	-	-	-	-	-	1
Pelvis	-	2	-	-	-	-	-	-	-	2
Femur	-	-	-	-	-	2	-	-	-	2
Tibia	-	4	-	-	-	-	-	1	-	5
Tibiotarsus	-	-	-	-	-	1	-	-	-	1
Astragalus	-	2	-	-	-	-	-	-	-	2
Calcaneum	-	2	1	-	-	-	-	-	-	3
Tarsometatarsus	-	-	-	-	-	1	-	-	-	1
Phalanx 3	-	1	-	-	-	-	-	-	-	1
Indet. Metapodial	-	2	-	-	-	-	-	-	-	2
Total	**6**	**16**	**4**	**1**	**1**	**5**	**0**	**1**	**1**	**35**
From sample										
Mandible	-	-	-	-	-	-	1	-	-	1
Loose mandibular teeth	-	1	1	-	-	-	-	-	-	2
Loose maxillary teeth	-	1	-	-	-	-	-	-	-	1
Indet. loose teeth	-	-	-	-	-	-	-	-	-	0
Humerus	-	-	-	-	-	-	1	-	1	2
Ulna	-	-	1	-	-	-	-	-	-	1
Pelvis	-	1	-	-	-	-	-	-	-	1
Third carpal	-	1	-	-	-	-	-	-	-	1
Second phalanx	-	-	-	-	-	-	-	-	-	0
Third phalanx	-	1	-	-	-	-	-	-	-	1
Indet. metapodial	-	-	-	-	-	-	-	1	-	1
Total	**0**	**5**	**2**	**0**	**0**	**0**	**2**	**1**	**1**	**11**

Field 159A

Of all of the areas at Bainesse, Field 159A yielded the largest assemblage of faunal remains from grave fills. However, none were considered to be ritual deposits. In total, 17 countable, hand-collected specimens were recovered, representing cattle, sheep/goat, pig, horse, large rodent and amphibian. The most common taxon was sheep/goat. Most species were only represented by one or two specimens. However, in the case of sheep/goat, a range of body parts was represented, including teeth, forelimb and hindlimb elements.

In addition, eleven specimens were recovered from samples. These represented sheep/goat, pig, large rodent, small rodent and amphibian. Unsurprisingly, the remains from samples better represent the smaller taxa, such as small rodents.

Burials at Cataractonium (F172–179)

Faunal remains were recovered from burial contexts at Brough Park (Field 172), Fort Bridge (Field 176FB), Brompton West (Field 177/178) and Brompton East (Field 179). Seventy-three countable specimens were recovered by hand, with an additional 33 recovered from samples (Table 9.4). Species include cattle, sheep/goat, pig, equid, galliform, duck and small rodent. The most common taxon in the hand-collected assemblage was sheep/goat, followed by pig and then cattle. In the

Table 9.2: burials containing possible ritual deposits of faunal remains from the Bainesse Cemetery area.

Field	Context	Grave no.	RF no.	Burial type	Age (human)	Sex (human)	Animal species	Animal bones	Comment
163C	12798	148	11148	Inhumation	No skeleton	Unknown	Canid: dog or fox	Fragmentary canine with copper staining	Found in close proximity to Cu discs and rings (RF11144, RF11145, RF11146, and RF11147)
163C	13128	240	11758	Inhumation	Younger juvenile (4–5yrs)	Unknown	Galliform: most likley chicken	Partial juvenile skeleton: right humerus; right and left femur; left tibiotarsus; left tarsometatarsus	
163C	12400	257		Cremation	Adult	Unknown	Sheep/goat	Left and right astragalus (calcined); left and right calcaneum (one unfused, both calcined); proximal 3rd phalanx (fused, calcined); distal metapodial (calcined)	Not urned
163C	12300	264		Cremation	Non-adult	Unknown	Sheep/goat	3rd carpal (calcined); 3rd phalanx (fused, calcined) both from sample AA	Not urned

samples, the most common taxon was galliform, followed by sheep/goat. The galliform remains most likely belong to a single chicken that was burnt alongside the human remains in Grave **6790** (see below). In the case of cattle, sheep/goat and pig, elements were present from across the body, representing the cranium, fore and hindlimbs.

Possible placed deposits of faunal remains in graves

A single excavated grave at Brough Park, *Cataractonium,* contained possible ritual deposits of an animal. Grave **6790**, a *bustum* burial, contained burnt galliform remains within the primary cremation burial, which were mixed in with the cremated human remains (Table 9.5). The elements recovered appear likely to be from the same individual, as the left and right pairs of bones are of a similar age and stature. A number of the elements could be confidently identified as chicken. This chicken was presumably burnt alongside the human remains. As this is a *bustum* burial, where the body is burnt in situ, there is a higher likelihood of finding a more complete chicken, as opposed to redeposited cremated remains, which may contain selected elements. Similar to the inhumation from the Bainesse Cemetery (Grave **240**), which contained a partial galliform skeleton, the *bustum* -type burial at Brough Park is suggested to date to the 3rd century AD (see Table 4.12).

Other faunal remains from grave backfills

Brough Park (Field 172)

Aside from the single chicken in Grave **6790** (discussed above), there were just two other specimens (both hand-collected) from graves at Brough Park. These were both pig teeth, one of which was a third molar from an adult animal (*sensu* O'Connor 1988). Both were recovered from an upper fill of the same grave and are unlikely to have formed part of the burial ritual.

Fort Bridge (Field 176FB)

No countable, hand-collected faunal remains were recovered from Fort Bridge and only two specimens were recovered from samples. One of these represented sheep/goat/roe deer and the other a small rodent. There is no reason to believe that these remains formed part of the burial ritual.

Brompton West (Field 177/178)

The majority of vertebrate remains from grave fills at *Cataractonium* come from Brompton West, with 69 countable specimens from the hand-collected

Table 9.3: burnt faunal remains in burial contexts from across the whole scheme. Counts include all specimens, not just those considered 'countable' for the calculation of NISP.

Field	Context	Grave no.	Sample (HC=hand collected)	Description	Burnt	Calcined	Burnt/ calcined	Total
Cremations								
163C	12400	257	HC	Partial hind-limb of sheep/goat: left and right astragalus; left and right calcaneum (one unfused); proximal 3rd phalanx (fused); distal metapodial	-	6	-	6
163C	12300	264	AA	Sheep/goat: 3rd carpal; 3rd phalanx (fused)		2	-	2
Possible bustum burials								
172	25004	6790	AD	Probable chicken (same individual as remains from sample AE): left scaplua, left ulna, left radius, left carpometacarpus, left femur	5		-	5
172	25004	6790	AE	Probable chicken (same individual as remains from sample AD): two fragments of left tibiotarsus (could be from the same bone) and right tibiotarsus, 4x fragments of tarsometatarus: two from left and two from right, with no overlapping zones, 3x first phalanx, 3x second phalanx and 1x third phalanx.	5	1	8	14
Other burials								
178	20601	20601	HC	Sheep/goat first phalanx	1	-	-	1
178	20692	20621	AB	Sheep/goat first, second and third phalanx	-	3	-	3
258	15394	25396	AA	Sheep/goat/roe deer femur fragment	-	1	-	1
258	26033	26034	HC	Sheep/goat pelvis	-	1	-	1
				Total (hand-collected)	**1**	**7**	**0**	**8**
				Total (from sample)	**10**	**7**	**8**	**25**

assemblage and 19 specimens recovered from samples. The majority of the remains are from cattle, sheep and pig, with much smaller samples representing equid, chicken/pheasant and small rodent. Pheasants were very rare in Roman Britain, so the chicken/pheasant specimen most likely represents chicken. Animal remains were recovered from contexts related to 18 different graves (Table 9.4), and a small number (one hand-collected and three from sample) were burnt (Table 9.3). However, none were considered to be of ritual significance. One cattle astragalus (from a fill of Grave **20812**) displayed a chop mark, indicating that at least some of this material was butchery waste.

Brompton East (Field 179)

Two countable specimens were recovered from the single grave at Brompton East. These were both hand-collected. They represented a mallard-sized duck and a small rodent.

Burials at Scotch Corner

Burials were located in Fields 228, 258 and 265 (Violet Grange) at Scotch Corner. No faunal remains were recovered from the single inhumation grave in Field 228. However, small numbers of faunal remains were found in graves within Fields 258 and at Violet Grange, amounting to six countable specimens from the hand-collected assemblage and four from samples (Table 9.6). Represented taxa included cattle, sheep/goat, plus some specimens attributed to sheep/goat/roe deer. The most common taxon was sheep/goat in both the hand-collected and sampled assemblages, although the latter were very small. Overall, the size of the sample was too small for much comment to be made about the presence of different body parts, although both teeth and postcranial remains were recovered. None of the remains from Scotch Corner are considered to be of any ritual significance.

Table 9.4: faunal remains from grave fills at Cataractonium.

Cataractonium	Cattle	Sheep/ goat	Sheep	Sheep/goat/roe deer	Pig	Pig?	Cattle/Deer	Equid	Galliform	Duck (mallard sized)	Small rodent	Total
	Bos taurus	***Ovis/ capra***	***Ovis aries***	***Ovis/Capra/ Capreolous***	***Sus domesticus***	***Sus domesticus?***	***Bos/Cervus***	***Equus. Sp***		***Anas platyrhynchos sized duck***		
Hand-collected												
Mandible	-	-	-	-	1	-	-	-	-	-	1	2
Maxilla	-	1	-	-	2	-	-	-	-	-	-	3
Loose mandibular teeth	-	4	1	-	4	-	-	-	-	-	-	9
Loose maxillary teeth	4	8	-	-	8	-	-	-	-	-	-	20
Cranium	1	-	-	-	-	-	-	-	-	-	-	1
Humerus	1	2	-	-	-	-	-	-	-	-	-	3
Radius	1	1	-	-	-	-	-	-	-	-	-	2
Ulna	-	2	-	-	2	-	-	-	-	-	-	4
Metacarpal	-	3	-	-	-	-	-	-	-	-	-	3
Pelvis	-	1	-	-	-	1	-	1	-	-	-	3
Femur	1	1	-	-	1	-	-	-	-	-	-	3
Tibia	-	1	-	-	-	-	-	1	-	1	-	3
Astragalus	3	-	-	-	-	-	-	1	-	-	-	4
Calcaneum	1	-	-	-	-	-	1	-	-	-	-	2
Metatarsal	2	1	-	-	-	-	-	-	-	-	-	3
First phalanx	1	2	-	-	1	-	-	-	-	-	-	4
Third phalanx	2	-	-	-	1	-	-	-	-	-	-	3
Indet. metapodial	-	-	-	-	1	-	-	-	-	-	-	1
Total	**17**	**27**	**1**	**0**	**21**	**1**	**1**	**3**	**0**	**1**	**1**	**73**
From sample												
Loose mandibular teeth	2	5	-	-	-	-	-	-	-	-	-	7
Loose maxillary teeth	-	-	-	-	2	-	-	-	-	-	-	2
Scapula	-	-	-	-	-	-	-	-	1	-	-	1
Humerus	-	-	-	-	-	-	-	-	-	-	1	1
Radius	-	1	-	-	-	-	-	-	2	-	-	3
Ulna	-	-	-	-	-	-	-	-	1	-	-	1
Carpometacarpus	-	-	-	-	-	-	-	-	1	-	-	1
Pelvis	-	-	-	-	-	-	-	-	-	-	1	1
Femur	-	-	-	-	-	-	-	-	2	-	1	3
Tibiotarsus	-	-	-	-	-	-	-	-	2	-	-	2
Tarsometatarsus	-	-	-	-	-	-	-	-	4	-	-	4
First phalanx	-	1	-	-	1	-	-	-	-	-	-	2
Second phalanx	-	2	-	-	1	-	-	-	-	-	-	3
Third phalanx	-	1	-	-	-	-	-	-	-	-	-	1
Indet. metapodial	-	-	-	1	-	-	-	-	-	-	-	1
Total	**2**	**10**	**0**	**1**	**4**	**0**	**0**	**0**	**13**	**0**	**3**	**33**

Table 9.5: burials containing possible ritual deposits of faunal remains from Cataractonium.

Field	Context	Grave no.	Burial type	Age (human)	Sex (human)	Animal species	Animal bones	Comment
172	25004	6790	Cremation (bustum)	At least 5 individuals; 3 adults and 2 juveniles; 5-6 yrs and 10-11 yrs	Unclear – one individual with possible female attributes	Likely chicken	Most likely all from the same individual: sample AD: left scaplua, left ulna, left radius, left carpometacarpus, left femur; sample AE: two fragments of left tibiotarsus (could be from the same bone) and right tibiotarsus, 4x fargments of tarsometatarus: two from left and two from right, with no overlapping zones, 3x first phalanx, 3x second phalanx and 1x third phalanx.	Sample AD: incomplete forelimbs and a femur. Sample AE contains almost complete hind limbs

Field 258

Five hand-collected specimens were recovered from grave fills in Field 258, and four from samples. These represented cattle, sheep/goat and sheep/goat/roe deer. One hand-collected and one sample specimen were burnt (Table 9.3), but none were considered to be of ritual significance.

Violet Grange (Field 265)

A single hand-collected specimen, a cattle scapula, was recovered from one of the two graves at Violet Grange. No specimens were recovered from samples.

Burials at Scurragh House (Fields 207–211)

Faunal remains were recovered from graves at Scurragh House. A single hand-collected specimen, a sheep/goat mandibular third molar, was found within the fill of a corn dryer in Field 210, which has been interpreted as a possible burial context.

A number of grave backfills at Scurragh House also contained small fragments of burnt bone, which could not be identified as human or animal.

Discussion

Placed deposits

Across the scheme, five graves contained placed faunal remains of possible ritual significance. Two of these contained the remains of a partial galliform skeleton, most likely belonging to chicken. One was the inhumation of a young juvenile in Bainesse Cemetery (Field 163C, Grave **240**), while the other was a *bustum*-type burial at Brough Park which contained the remains of least five individuals (three adults, one younger juvenile and an older juvenile), including a possible female (Field 172, Grave **6790**). Chicken are some of the most common animals that were intentionally placed in graves during

Table 9.6: faunal remains recovered from grave fills at Scotch Corner.

Scotch Corner	Cattle	Sheep/ goat	Sheep/goat/ roe deer	Total
	Bos taurus	*Ovis/ capra*	*Ovis/Capra/ Capreolous*	
Hand-collected				
Mandible	-	-	-	0
Loose mandibular teeth	-	1	-	1
Loose maxillary teeth	1	-	-	1
Scapula	1	-	-	1
Pelvis	-	1	-	1
Tibia	-	1	1	2
Total	**2**	**3**	**1**	**6**
From sample				
Loose mandibular teeth	-	2	-	2
Loose maxillary teeth	-	1	-	1
Femur	-	-	1	1
Total	**0**	**3**	**1**	**4**

the Roman period and, according to Philpott (1991), are most commonly found in female cremation burials and male inhumations. However, the absence of information regarding the sex of the individuals within these two graves means that it was not possible to see if they follow this pattern. Neither of the partial galliform skeletons included any cranial remains, and the individual from Grave **240** was missing both its crania and phalanges. The absence of cranial and foot remains has been interpreted as indicative that an animal had been cooked before deposition (Lauwerier 1993). However, the presence of a tarsometatarsus within Grave **240**, along with the fact that it was a juvenile animal and that cranial remains do not survive well in the archaeological record, suggests it likely that there is a taphonomic explanation for these missing elements. It was not possible to sex either of the galliform skeletons, as neither individual had the appropriate part of the tarsometatarsus that yields the spur, and there was no evidence of medullary bone in either case. Both galliform skeletons were recovered from graves that date to the 3rd century AD. This fits well with the broad pattern identified by Philpott (1991), who suggests that the deposition of domestic fowl in graves seems to be particularly common between the 2nd and 4th centuries. By the 4th century, fowl appear to be the most common form of food offering in graves across Britain and are the first or second most common species identified in grave contexts at many cemetery sites, including Lankhills, Hampshire (Brothwell 1979), the Eastern Cemetery of London (Reilly 2000), Trentholme Drive, York (Fraser and Ryder 1968), Poundbury, Dorset (Buckland-Wright 1993), and Brougham, Cumbria (Bond and Worley 2004).

Two cremation burials, both from Bainesse Cemetery (Grave **257** and **264**), contained burnt sheep/goat remains. In at least one of these cases (Grave **257**) the remains represented a partial skeleton. It is likely that they represent pyre goods that were burnt alongside the human remains during cremation. Sheep are known to have been a species commonly included in sacrificial rites by the Romans (White 1970) and were deposited in both inhumations and cremation burials in Roman Britain (Philpott 1991). In fact, in the case of cremation burials, sheep/goat remains replace pig as the most common species from the mid-1st century AD (Philpott 1991). At the 3rd-century Roman cemetery at Brougham, Cumbria, one of the only northern sites where an in-depth analysis of animal remains from cremation burials has been undertaken, sheep/goat were the most common species recovered (Bond and Worley 2004).

In addition to the data from the current A1 scheme, two graves from past excavations at Cataractonium and Bainesse also contained animal remains (Table 9.7). However, in both cases, these could not be identified to species. At Catterick Bridge (Site 240), grave 2186 contained a bird skeleton, which is described as 'small' and so is unlikely to be chicken (Wilson 2002a). At Bainesse (Site 46), grave 1740 contained an animal bone positioned across the mouth of the skeleton (Wilson 2002a). Other than the fact that birds were deposited in graves from both past and recent excavations, which reflects the fact that they are common across Roman Britain as a whole, there are not enough graves containing animal remains at either of these sites to enable wider patterns to be established (see below).

The presence of animal remains in Roman graves is often interpreted as food that was left for the dead in order to sustain them in the next world (Alcock 1980, 63). However, there is the possibility that the presence of only part of an animal instead represents a more economical sacrificial representation of the whole, which was presented as an offering to the gods (Macdonald 1979), particularly in the case of partial or complete skeletons. Feasting was thought to have been an important part of funeral rites, and British Roman tombstones often bear representations of funerary banquets (Philpott 1991). The burning of food on the pyre was thought to reduce it to the same state as the body of the deceased and may have been seen as spiritually nourishing the soul rather than the physical body (Philpott 1991). It is possible that the remains discussed above are reflective of similar practices, although additional research would be required to establish any observable trends.

The canid (dog/fox) tooth with copper staining found in Grave **148** at Bainesse Cemetery is likely associated with the copper artefacts found with it, which together may have formed an amulet. This is a different kind of find compared to the sheep/goat and galliform skeletons from the other graves. Dog teeth were considered to have power during the Roman period and were used for medicinal purposes (see Pliny, the Elder 1963, 30.8.21 and 30.30.98). Therefore, this group of items is likely to have had some kind of ritual significance, as discussed in Chapter 8. Overall, relatively few of the graves from the A1 scheme contained ritually deposited animal remains, with only five of more than 300 yielding placed goods (<2%). The lack of deliberately placed pig remains from graves at both Bainesse and *Cataractonium* is of interest, as these tend to be the most dominant species in the period, alongside chicken, which are found in graves across Europe (Lauwerier 1993). However, the sample is small and bone preservation in this area is extremely variable. As a result, the recovered remains may not be a true reflection of the range of animals included in burial rites in this region.

Table 9.7: potential ritually placed animal remains recovered from previous excavations at Catterick and Bainesse

Site	Grave no.	Burial type	Age (human)	Sex (human)	Animal remains	Date	Reference
Catterick Bridge site 240	2186	Stone-lined inhumation	Unknown	Unknown	Small bird skeleton positioned under head stone, species not mentioned	?Late 4th to early 5th century AD	Wilson 2002b
Bainesse site 46	1740	Inhumation	12-14 yrs	Unknown	Unidentified animal bone positioned across mouth of human skeleton.	4th century AD	Wilson 2002b

Faunal remains from grave fills

The faunal remains recovered from grave fills represent the usual taxa recovered at Roman sites in the UK. The most common are the three main domesticates, cattle, sheep/goat and pig, which were mostly found within grave backfills and are likely to represent material derived from earlier features or layers that have been truncated as graves were cut. As a result, their deposition is not considered to be ritual in nature. Rodent remains are likely to represent intrusive specimens related to burrowing, and therefore likely bear no relationship to the graves themselves. The next most common taxon is galliform (most likely chicken), the remains of which may relate to ritual deposition, as a number of these bones belong to the same individual. In general, the samples are too small to investigate body part representation; however, from the data available for the main domesticates, there is no indication of bias towards certain body areas.

Burnt remains from graves scheme-wide

The majority of burnt remains within grave contexts (Table 9.3) were those found mixed with human cremated bone. These formed part of the funeral pyre in Graves **257**, **264** and **6790**. The only exceptions were four burnt sheep/goat phalanges from Brompton West (Field 177/178, Graves **20601** and **20621**).

All of the burnt animal remains found in cremation burials were from sheep/goat or galliform (most likely chicken). Along with cattle and pig, they are some of the most common taxa found in British Roman cremation burials (Philpott 1991), and therefore do not represent an unusual occurrence.

Evidence of butchery in graves scheme-wide

Only one specimen, a cattle astragalus from Grave **20812** at Brompton West (Field 177/178), displayed any evidence of butchery, in the form of a chop mark. There are no other cattle remains from the same grave that may be from the same individual. Therefore, it is unlikely that the chop mark was related to the deposition of this bone within a grave, and it is more likely to have originated from a disturbed non-ritual context.

MARINE SHELLFISH

Hannah Russ

Introduction and method

The remains of marine molluscs were recovered by hand during excavation, as well as from bulk environmental samples. The remains were identified and quantified using the author's reference collection and published identification guides (Hayward and Ryland 1995; Claassen 2009). Fragmentation and small assemblage size did not permit estimation of minimum number of valves/individuals; fragments identifiable to taxa are presented by count, and non-identified fragments by presence/absence (Table 9.8).

Results

Shellfish remains were recovered from a total of eight grave fills across the scheme. None are considered to represent grave goods. Six of these graves, three at Bainesse Cemetery and three within *Cataractonium*, yielded the remains of shellfish that were likely consumed and discarded during the Roman period, and subsequently redeposited within the backfills of human burials. These included mussel (*Mytilus* sp.) and cockle (Cardiidae). In addition, one grave at Bainesse Cemetery (Grave **77**) and one at Brompton West, in the northern suburb of *Cataractonium* Roman town (Grave **20532**), contained a single fossil bivalve shell. These are consistent with shells occurring within the local geology (Powell 2012). As a result, it is impossible to know if they represent intentional inclusions within the burials or are coincidental within the grave backfills.

Discussion

Both mussels and cockles are documented as food items during the Roman period in Britain (Cool 2006, 108–9), though they are generally found much less frequently than their popular shellfish counterpart, the oyster (*Ostrea edulis*). It is perhaps expected to find fewer of these taxa at *Cataractonium* and Bainesse, given that both of these towns are located 40km from the east coast and 120km inland from the west coast of Britain.

Table 9.8: summary of marine and fossil mollusc remains from grave fills at Bainesse Cemetery and Cataractonium.

Site	Field	Grave no.	Mussel (*Mytilus* sp.) (count)	Cockle (Cardiidae) (count)	Unidentified marine shell (present/absent)	Fossil bivalve (count)
Bainesse Cemetery	F163C	54	0	0	p	0
Bainesse Cemetery	F163C	77	0	0	a	1
Bainesse Cemetery	F163C	122	0	1	a	0
Bainesse Cemetery	F163C	264	1	0	p	0
Cataractonium	F176FB	21162	12	0	a	0
Cataractonium	F176FB	21904	18	0	a	0
Cataractonium	F176FB	18024	30	0	a	0
Cataractonium	F177/178	20532	0	0	a	1

However, mussels and/or cockles have been found on a small number of other inland Roman sites (see Cool 2006, 109), including Leicester (Monkton 1999), the villa at Shakenoak in Oxfordshire (Brodribb *et al*. 1971), and the small village at Catsgore in Somerset (Everton 1982). Of note is the frequency of fragments of mussel shell in the *Cataractonium* grave fills, which suggests that this taxon may be well represented and therefore consumed within the town more generally.

The presence of these shellfish remains provides evidence for the breadth of dietary resources utilised at *Cataractonium* and Bainesse, as well as the presence of efficient transportation systems that would have allowed these time and temperature sensitive food stuffs to travel so far inland for consumption before spoiling. Despite this evidence for marine protein consumption, this particular source would have little impact on nitrogen isotope values in human bone, as most shellfish are a low trophic level dietary resource (e.g. Post 2002; see Chapter 10). A more detailed account of the archaeology recorded at Bainesse and *Cataractonium* will be published separately (Ross and Ross forthcoming) and analysis of the marine mollusc assemblage as a whole will appear in that volume.

BOTANICAL REMAINS

Jonathan Baines, with contributions from Lynne F. Gardiner

INTRODUCTION AND METHOD

The bulk environmental samples were processed with a 500 micron retention and flotation mesh using the Siraf method of flotation (Williams 1973). The plant remains and charcoal were identified to species, in so far as reasonably possible, using Schweingruber (1990), Hather (2000), Cappers *et al*. (2006), Jacomet (2006) and the Northern Archaeological Associates reference collection. Binomial nomenclature follows Flora Europaea (Tutin *et al*. 1993) and all entries are recorded alphabetically.

The use of cf. was avoided when unsure of a particular specimen to simplify the dataset and record all material to a family, genus or species. Where this was not possible, specimens were recorded as undetermined. Where family, genus or species could not be determined, grasses were subdivided into size categories to obtain some sense of detail with regards to the composition of meadow or arable weed elements. Likewise, grain fragments that could not be distinguished to the genus level of rye (*Secale*), barley (*Hordeum*) or wheat (*Triticum*) were recorded as indeterminate Cerealia. Since wild oats (*Avena fatua*) are considered a crop contamination, and no signs for cultivated oats (*Avena sativa*) were found, they have been excluded from the Cerealia category.

Because charcoal, particularly ash (*Fraxinus*) and oak (*Quercus*), can fracture into many pieces, the overall retained weight in each sample is recorded and percentages of taxa composition are noted.

A full catalogue of the charred plant remains and wood can be found in Appendix L, which is available via the ADS and should be read alongside this report.

RESULTS

Prehistoric burials

Bowbridge Lane (F145)

In total, 320 charred plant remains were recovered from the funerary-related features recorded at Bowbridge Lane, which comprised a series of pits containing small quantities of calcined bone. The majority of these (96%) were cereal grains, including barley (*Hordeum vulgare*), emmer (*Triticum dicoccum*) and spelt (*Triticum spelta*). The presence of these taxa associated with cremated human remains may suggest the use of straw and cereal processing waste as kindling. The few arable weeds (3%) included wild oat and ivy-leaved speedwell (*Veronica hederifolia*), the presence of which suggests winter (autumn-sown) cereals were cultivated nearby (van Zeist and Palfenier-Vegter 1992; Cobain 2017a). Numerous

hazelnut shells were recovered from six of the 26 investigated features. The presence of two onion couch bulbs (a tall perennial grass; *Arrhenatherum elatius* ssp. *bulbosum*) has no succinct interpretation. Although onion couch is interpreted as significant in funerary contexts in prehistory (Roers *et al*. 2013), the bulbs could equally be regarded as belonging to uprooted plants from cultivation plots, which were later used as platted kindling. However, some sources suggest that the nutritious tubers were gathered as food (e.g. Preiss *et al*. 2005). Two grams of oak and ash charcoal was retrieved from the cremation graves at Bowbridge Lane.

Killerby (Field 259)

Grave 6887

One small legume (Fabaceae), one common fumitory seed (an herbaceous annual flowering plant in the poppy family; *Fumaria officinalis*), a handful of grass culms and one indeterminate tuber were found in the Killerby cremation burial. Whilst the legume was likely a locally charred, accidental inclusion, the fumitory was a weed caught up in the burning of kindling. It indicates summer-sown crops or disturbed moist soils, such as garden soils or from intensive hoeing (Vandorpe 2010). The feature also contained 190g of oak charcoal, which had been sourced from both mature wood and smaller branches.

Catterick Racecourse (Field 174)

Grave 1391

This prehistoric cremation burial contained 241g of roundwood charcoal. Oak represented c.60% of the material, with the remaining 40% identified as stone fruit (*Prunus*).

Bainesse Cemetery and surrounding area

Charred plant remains

Cereals and a few weeds dominate the cemetery's charred seed and fruit assemblage. Blue woodruff (*Asperula arvensis*), identified in Grave **221**, highlights the breadth of the extant arable weed community now almost entirely lost due to modern cultivation practices. It also highlights a potential dichotomy between the interpretation of colourful flowers as part of a wreath because it was found in a cemetery, or as a loose fragment of agricultural refuse caught up in a busy environment. Considering Grave **221** was an inhumation, the idea of a burnt wreath is tenuous, and the latter interpretation is more likely.

Significantly, specimens from each of the main crops known to have been cultivated in Roman Britain were identified, namely rye, barley, emmer, spelt and bread wheat (*Triticum aestivum*). However, the latter is a tentative interpretation of two specimens, due to the lack of glume evidence to safely distinguish between free-threshing and hulled wheat. Though these grains are perceived as an indication for the use of straw and processing waste as kindling, very little of the more brittle material, such as the husks and spikelet forks, survived.

Five graves contained pulses, namely lentil (*Lens*), pea (*Pisum*) and broad bean (*Vicia faba*), see Table 9.9. Unlike cereals, the cleaning process of which involved parching in an oven, pulses are less prone to inadvertent preservation. It is therefore likely that they were deliberately brought to the funerary area as food, rather than accidentally incorporated with other domestic refuse. Comparable deposits of pulses were recorded at the burial sites of *Vindonissa*, a *castrum* in northern Switzerland dated to the 1st- to mid-2nd century AD (Baerlocher *et al*. 2012). There, a trend was perceived, with broad bean common in the earlier burials and lentil and pea more popular in the later burials. The investigated dataset from Bainesse was comparatively much smaller but matches this pattern.

A similar interpretation applies to the single charred blackberry seed (*Rubus fruticosus*) from Grave **78** and the mineralised grape pip (*Vitis vinifera*) from Grave **262**. However, while blackberry would have been available locally, grape indicates trade links with southern Britain, given that the most northerly, albeit contested, Roman vineyard in Britain is located in Lincolnshire at North Thoresby (Webster *et al*. 1967), if not further across to the Continent (see van der Veen *et al*. 2007).

Charcoal

Oak usually dominates the charcoal assemblages recovered from these graves; however, the inhumations in Field 159A revealed scant oak fragments. Instead they contained a broader range of taxa. Grave **13435**, for example, contained dogwood (*Cornus sanguinea*), birch (*Betula*) and genera in the apple subfamily (Maloideae), such as hawthorn (*Crataegus*), rowan (*Sorbus*) and apple (*Malus*).

Oak was a main component of the charcoal recovered from graves in Bainesse Cemetery. However, scrubland species, such as hazel, guelder rose (*Viburnum opulus*) and alder buckthorn (*Frangula alnus*), made up a large fraction

Table 9.9: graves with pulses from Bainesse Cemetery.

Grave number	Context	Species	Quantity
151	12407	Lentil	1
165	12700	Pea	1
197	13140	Pea	1
208	13097	Lentil	1
257	12399	Broad bean	1

of the assemblage. A considerable portion of the overall assemblage was hardwood, such as field maple (*Acer campestre*), birch and ash. This suggests opportunistic fuel collection in the neighbouring woodlands, rather than a specific choice of wood. Lime (*Tilia cordata*) and rose (*Rosa*) charcoal, for instance, would have made up only a small fraction of the surrounding tree cover but was occasionally encountered in the Bainesse burials (Huntley 2010, 46). Unfortunately, it was not possible to distinguish between young growth or more mature, denser wood in these rarer fragments to hypothesise on the burning of furniture or planks from coffins.

Mineralised wood fragments on coffin nails

Mineralised remains of oak were identified adhering to 21 nails from graves in the Bainesse Cemetery (Table 9.10), attesting to the use of oak as a coffin material over any other wood species that might have been available. Further discussion regarding coffin materials can be found in Chapter 8 of this volume.

Table 9.10: nails with adhereing preserved wood from Bainesse Cemetery.

Grave number	Context	RF	Species	Grain direction
7	13377	11966	Oak	Across the grain by the head
7	13377	13337	Oak	Across the grain by the head
7	13337	11952	Oak	Across the grain at the tip and shank middle
13	12647	10267	Oak x 2	Nearest to tip adheres along the grain and by the nail head attaches across the grain
17	13154	11869	Oak	Along the grain from tip to head
71	12597	772	Oak	Across the grain by the head
99	12966	11313	Oak	Across the grain at the tip and shank middle
102	12930	11269	Oak	Across the grain by the head
102	12930	11279	Oak	No orientation observed
140	12997	11373	Oak	Along the grain from tip to head
148	12798	11163	Oak	Along the grain from tip to head
177	12976	11294	Oak	Across the grain through middle of the shank
181	12867	11240	Oak	No orientation observed
181	12867	11261	Oak	No orientation observed
186	12653	10325	Oak	Across the grain by the head
199	13190	11833	Oak	Across the grain by the head
202	12712	10397	Oak	Across the grain through middle of the shank
209	13065	11688	Oak	Along the grain from tip to head
209	13065	11693	Oak	Along the grain from tip to head
209	13065	11704	Oak	Across the grain by the head
219	13195	11817	Oak	Along the grain from tip to head

Burials at *Cataractonium*

The remains of charred seeds and wood were recovered from many of the cremation burials and inhumations at *Cataractonium*, Brough Park, Fort Bridge, Brompton West and Brompton East.

Charred plant remains

Brough Park (Field 172)

Grave 6790

The 39 bog beans (*Menyanthes trifoliata*) from the *bustum* burial (Grave **6790**) at Brough Park are tentatively interpreted as the remains of a mat of white flowers draped over the pyre. Though this aquatic plant may have grown in a ditch, pond or other wetland nearby, the presence of such a number of specimens suggests that they formed an intentional part of the burial. Maturing in June and July, this scenario would hypothesise ignition in summer or autumn. However, their presence may instead reflect the use of peat or wetland plants, such as reeds or rushes, for lighting the pyre.

Pit 6750

A single marsh pennywort seed (*Hydrocotyle vulgaris*) was retrieved from pit **6750** alongside some disarticulated human bone at Brough Park. Notwithstanding the arable weeds found in the same sample, it does not suggest cereals were grown on very wet soils or that the margins of cultivation plots were frequently inundated. As a wetland plant it was probably brought into *Cataractonium* with river water or materials from stream banks.

Brompton West (Field 177/178)

Grave 20106

The retrieval of 288 sweet-scented bedstraw seeds (*Galium odoratum*) from cremation Grave **20106** at Brompton West suggests deposition of a fragrant white wreath in the summer. However, the seeds could possibly belong to a morphologically very similar species, stickyweed

Table 9.11: summary of charcoal recovered from cremation burials across the A1 scheme.

Site	Bowbridge Lane		Bainesse Cemetery											
Field	145		163											
Grave	10017	10134	257	258	259	263	264	265	267	269	270	271	272	274
Volume (l)	40	40	40	40	40	40	80	40	40	120	40	40	40	40
Weight (g)	1.2	0.7	7.4	0.6	0.1	1	3.5	0.3	3.1	3.2	0.4	0.3	0.4	0.3
Hardwood														
Alder buckthorn	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Birch	-	-	-	25%	-	-	25%	-	-	-	90%	-	-	-
Field maple	-	-	-	-	-	-	-	-	30%	-	-	-	-	-
Oak	100%	50%	30%	-	-	40%	-	30%	-	-	-	80%	-	-
Forest margin														
Apple subfamily	-	-	30%	-	-	-	-	-	-	-	-	-	50%	-
Common privet	-	-	-	-	-	-	-	-	10%	-	-	-	-	-
Dogwood	-	-	-	25%	-	-	-	-	-	-	-	-	-	-
Hazel	-	-	30%	25%	-	-	25%	30%	40%	100%	-	-	50%	-
Rose	-	-	-	-	-	20%	-	-	-	-	-	-	-	-
Stonefruit	-	-	-	-	-	-	25%	-	-	-	-	-	-	-
Guelder-rose	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Damp woodland														
Alder	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ash	-	50%	-	-	-	40%	-	-	-	-	-	-	-	90%
Poplar / Willow	-	-	-	25%	-	-	25%	-	-	-	-	20%	-	-
Other														
Heather	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Undetermined	-	-	10%	-	100%	-	-	40%	20%	-	10%	-	-	10%

(*Galium aparine*), and reflect the burning and tidying up of unwanted growth in the vicinity.

Grave 20340

One charred agrimony seed (*Agrimonia eupatoria*) was retrieved from the fill of inhumation burial **20340** and is discussed at the end of this chapter in the section on depositional processes.

Charcoal

A total of 645g of charcoal was retrieved from 35 inhumations and cremation burials around *Cataractonium*. The charcoal recovered from the *bustum* burial (Grave **6790**, Brough Park) accounts for 86.8% of this. In theory, the charcoal layer of a *bustum* represents the pyre remains, with very little infill from the surroundings. Thus, it can provide a more complete record of the types of materials used for tinder (possibly even peat) than regular cremation deposits. This *bustum* burial revealed 13 of the 16 taxa identified at *Cataractonium*, with the noteworthy exception of ash. The two other absent taxa, lime and rose, as mentioned earlier, are rare throughout the archaeobotanical assemblage. Oak, as the principal woodland component and a good fuel, unsurprisingly accounts for about three quarters of the charcoal. However, this bias might be due to oak's denser structure; it will leave behind more charcoal fragments than softer woods. For the *bustum* to ignite with the desired effect, a substantial amount of kindling was needed. Though this could also be oak, other less dense and locally available wood might equally be burnt. However, as this *bustum* revealed so many other taxa (privet (*Ligustrum vulgare*), hazel, heather, dogwood, stonefruit (*Prunus*), field maple, alder buckthorn, guelder rose, alder, poplar or willow, and birch), the exploited fuel is best characterised as opportunistically gathered—or a very particular choice of species—rather than from a prepared stock of tinder and kindling.

Grave **6782** at Brough Park also stands out from the other burials around *Cataractonium* in terms of the charcoal weight, accounting for 24% of the total assemblage (excluding Grave **6790**) and taxa diversity. Whilst the other *Cataractonium* burials only comprised oak and up to three different genera, an additional six taxa were recovered from Grave **6782**. Presupposing oak was the principal fuel, as in the other burial features, the differences in the variety of identified taxa and weight of the charcoal could suggest it was a smaller *bustum*. However, this burial otherwise does not conform to the

Table 9.11 (cont.): summary of charcoal recovered from cremation burials across the A1 scheme.

Site	Brough Park										Brompton West
Field	172										178
Grave	6723	6727	6729	6754	6759	6772	6782	6783	6785	6790	20106
Volume (l)	120	40	80	40	40	40	120	160	120	1560	80
Weight (g)	15.6	0.3	86.3	0.1	6.6	1.9	119.8	8	136	3146	24.3
Hardwood											
Alder buckthorn	-	-	-	-	-	-	-	-	-	2%	-
Birch	-	-	20%	-	-	-	10%	15%	-	5%	25%
Field maple	-	-	-	-	-	-	5%	-	-	2%	-
Oak	25%	100%	15%	-	100%	90%	40%	70%	90%	72%	20%
Forest margin											
Apple subfamily	-	-	-	-	-	-	-	-	-	2%	-
Common privet	-	-	-	-	-	-	-	-	-	2%	-
Dogwood	-	-	-	-	-	-	-	-	-	2%	-
Hazel	-	-	40%	100%	-	-	15%	-	-	5%	20%
Rose	-	-	-	-	-	-	-	-	5%	-	-
Stonefruit	-	-	-	-	-	-	15%	15%	-	2%	20%
Guelder-rose	-	-	-	-	-	-	-	-	-	2%	-
Damp woodland											
Alder	-	-	-	-	-	-	-	-	-	-	-
Ash	25%	-	-	-	-	-	10%	-	-	-	-
Poplar / Willow	25%	-	-	-	-	-	5%	-	-	2%	10%
Other											
Heather	25%	-	20%	-	-	-	-	-	-	2%	-
Undetermined	-	-	5%	-	-	10%	-	-	5%	-	5%

criteria set by Mckinley (2017) for a *bustum* or *bustum*-type burial.

A few contrasts were observed in the charcoal assemblages from cremations between the Bainesse and *Cataractonium* area (see Table 9.11). Despite recovery of roughly the same breadth in taxa, heather was absent at Bainesse, yet common at *Cataractonium*. While a choice of hardwood fuel may be noticed at Bainesse (either birch, ash or oak, but seldom together, with a variety of kindling) the record at *Cataractonium* is dominated by oak, with birch and ash as minor additional hardwood fuels. In order to light and burn dense ash, birch or oak logs properly, some kindling would have been added (e.g. Chalinor 2010). The near exclusive usage of oak fuel at *Cataractonium* in Graves **6727**, **6759**, **6772** and **6785** is therefore distinct. As the charcoal morphology did not reveal whether roundwood or dried logs were burnt, interpretation of a particular pyre fuel or preparation is speculative.

Burials at other sites

Scurragh House (Fields 209-211)

In total, 31.3g of charcoal, including oak, birch, alder/hazel, heather, ash and poplar/willow, were recovered from the inhumations around Scurragh House. These charcoal fragments are probably the result of infill from the surrounding sediment and thereby represent the main taxa exploited as fuel in the area.

In total, 1,185.6g of charcoal, including oak, birch, ash, dogwood/guelder-rose, alder, hazel, field maple and genera in the apple and stone fruit subfamilies, were recovered from the cremation burials around Scurragh House. Table 9.12 summarises the assemblage from four graves with stakeholes. Two graves present a distinct pattern of remains from the pyre and the stakes. The four stakeholes near Grave **7859** for instance, contained exclusively oak charcoal. The cremation pit fill itself contained mostly oak, presumably the hardwood fuel, and a little stone fruit charcoal, possibly the remains of kindling. Similarly, the four stakeholes near Grave **7830** contained exclusively ash charcoal and the cremation fill a near equal mixture of ash and stone fruit. It was not possible to differentiate between native sloe and bird cherry, nor whether cherry or plum wood was present, which would both have been exotic species, within the recovered stone fruit taxon. Whilst these two graves suggest a distinct fuel preparation, the diversity in the

Table 9.11 (cont.): summary of charcoal recovered from cremation burials across the A1 scheme.

Site	Scurragh House				Killerby
Field	209		211		259
Grave	7830	7859	7671	7683	6887
Volume (l)	40	40	200	280	40
Weight (g)	64.1	343	244.4	496.3	187.9
Hardwood					
Alder buckthorn	-	-	-	-	-
Birch	-	-	20%	15%	-
Field maple	-	-	-	10%	-
Oak	-	55%	-	-	100%
Forest margin					
Apple subfamily	-	-	30%	25%	-
Common privet	-	-	-	-	-
Dogwood	-	-	10%	5%	-
Hazel	-	-	20%	30%	-
Rose	-	-	-	-	-
Stonefruit	60%	10%	-	10%	-
Guelder-rose	-	-	-	-	-
Damp woodland					
Alder	-	-	-	5%	-
Ash	30%	35%	20%	-	-
Poplar / Willow	-	-	-	-	-
Other					
Heather	-	-	-	-	-
Undetermined	10%	-	-	-	-

other two graves (**7671** and **7683**) indicates opportunistic burning of what was locally available. The particular distribution of individual taxa in the stakeholes of the latter two graves could indicate a specific choice of wood for the stakes. However, they may equally represent the breadth in scrub wood exploited as kindling—though curiously no heather was used—for lighting the main hardwood fuel and inadvertently deposited there.

Low Street (Field 261)

A single spelt grain was found in the fill of inhumation Grave **7181**.

Scotch Corner (Fields 228 and F265)

Small amounts of unidentifiable charcoal from the surrounding woodland were recovered from the three inhumations and the double cremation burial at Scotch Corner. There was no evidence that young wood was used in the pyres or became incorporated in the grave backfills.

Depositional processes

At Brompton West (Field 177/178), recovery of one charred agrimony seed (*Agrimonia eupatoria*) from inhumation Grave **20340** emphasises the complexity of interpreting plant remains recovered from burial contexts. A yellow dye can be extracted from this plant and it is also known to have medicinal properties (Barker 2001). It is therefore tempting to equate its presence with purposeful deposition as part of the burial rite. However, it may have inadvertently entered the site environment from the edge of cultivation plots or the surrounding landscape, especially as its seeds have barb-like ends that would facilitate further distribution by clinging to animal fur or clothing. It may therefore embody either agricultural/domestic waste or a votive practice. Hence, the presence of this agrimony seed does not distract from the archaeobotanical discussion of the burials at *Cataractonium* but instead illustrates complexities in site taphonomy. Sometimes the most parsimonious explanation for the presence of a specimen in a particular feature is due to the ecological composition of the sample. For instance, the *bustum* burial (Grave **6790**) at Brough Park contained two specimens of the lily family (Liliaceae), one mint (*Mentha*) and various sedges (*Carex*) that, when taken together with the 39 bog beans, hint at a wetland environment. Bog bean grows into dense carpets in and on the edge of still water; though it can propagate with the wind, it is perhaps unlikely that it reached as far as the Brough Park cremation burials. There

Table 9.12: charcoal summary from stakehole cremation burials at Scurragh House.

		Hardwood fuel				Kindling / scrub wood						Undet.
	Weight (g)	Oak	Ash	Birch	Field maple	*Prunus*	Maloideae	Alder / hazel	Dogwood / guelder-rose	Alder	Hazel	
Grave 7859												
Cremation pit fill	343	50%	25%	-	-	25%	-	-	-	-	-	-
Stakehole 7871	1.7	100%	-	-	-	-	-	-	-	-	-	-
Stakehole 7873	0.7	100%	-	-	-	-	-	-	-	-	-	-
Stakehole 7875	0.3	100%	-	-	-	-	-	-	-	-	-	-
Stakehole 7877	0.8	100%	-	-	-	-	-	-	-	-	-	-
Grave 7830												
Cremation pit fill	63.8	-	35%	-	-	55%	-	-	-	-	-	10%
Stakehole 7832	15.1	-	100%	-	-	-	-	-	-	-	-	-
Stakehole 7834	6	-	100%	-	-	-	-	-	-	-	-	-
Stakehole 7836	1.6	-	100%	-	-	-	-	-	-	-	-	-
Stakehole 7838	1.4	-	100%	-	-	-	-	-	-	-	-	-
Grave 7671												
Primary cremation pit fill	132	-	-	50%	-	-	45%	-	-	-	-	5%
Secondary cremation pit fill	121.2	-	45%	-	-	-	45%	-	-	-	-	10%
Stakehole 7675	0.1	-	-	-	-	-	-	-	-	-	-	100%
Stakehole 7677	0.6	-	-	-	-	-	100%	-	-	-	-	-
Stakehole 7681	0.7	-	-	-	-	-	-	50%	50%	-	-	-
Grave 7683												
Primary cremation pit fill	287.8	-	-	25%	-	-	-	-	-	25%	50%	-
Secondary cremation pit fill	203.5	-	-	-	30%	20%	25%	15%	10%	-	-	-
Stakehole 7687	3.1	-	-	-	-	-	100%	-	-	-	-	-
Stakehole 7689	0.8	-	-	80%	-	-	-	-	-	-	-	20%
Stakehole 7691	0.9	-	-	-	-	-	-	100%	-	-	-	-
Stakehole 7693	0.2	-	-	-	-	-	-	-	-	-	-	100%

might be temptation to consider the presence of mint, if found on its own, as the remains of an offering. When found with these other taxa, however, it instead suggests that peat was burnt, and the recovered seeds were a relic of the natural seed bank in the sods. The few cereal grains, weeds and elder seed then represent a different deposition route that involved domestic rubbish mixed in from the surrounding environment. Identification of charred wild radish pods (*Raphanus raphanistrum*) and a handful of cereals in the fill of inhumation Grave **20417** at Brompton West indicates the arbitrary inclusion of agricultural waste in cemetery backfills, rather than the remains of a votive offering or burial feast.

Whilst some of the recovered seed and fruit are archaeologically significant, due to their worth as components of dyes, manufacturing resources, medicine or for cooking, many embody the natural surrounding vegetation. For instance, one lemon balm seed (*Melissa officinalis*) was found in pit **20176** at Brompton West with a small number of human skull fragments. A few grains of three different cereals were also recovered, as well as some arable weeds and charcoal. This admixture reminds us that settlement sites are untidy, and that all manner of material is moved and redeposited, occasionally including human remains, over the course of various seasons of occupation. A disturbed, ruderal ecology

also prevailed at the *Vindonissa* burials, Switzerland. The similar breadth in dissociated plant diversity identified in the grave fills there, as in the cemeteries of the A1 scheme, suggests that they were much frequented and well-trodden areas (Baerlocher *et al*. 2012, 45).

Lastly, it must be noted that samples recorded from 'within' a coffin represent material from the backfill that has collapsed into the coffin as its wooden structure rotted away over time. Therefore, the botanical remains recovered from these should not be assumed to represent grave goods. For example, inhumation Grave **13586** at Bainesse revealed an otherwise unlikely assemblage of charred spelt, barley, pasture species and arable weeds. These cereals are not considered grave goods, because offerings of grains with impurities, such as fescue and ryegrass (*Festuca* sp. or *Lolium* sp.), heath grass (*Danthonia decumbens*), bedstraw (*Galium* sp.), ribwort plantain (*Plantago lanceolata*), brome (*Bromus* sp.), vetch (*Lathyrus* sp. or *Vicia* sp.) and sorrel (*Rumex* sp.) would not be made. While the soil naturally contains a dormant seed bank, it also contains a bank of charred seeds, gradually deposited and transported by human activities around the cemetery and nearby Early Roman settlement. Considering this inhumation lies outside, or on the Bainesse Cemetery periphery, a highly agrarian infill is not considered to be out of place.

CONCLUSION

As already discussed, it is difficult in many cases for faunal and botanical remains to be confirmed with any certainty as being directly or indirectly associated with the act of burial, especially when no human modification is apparent. The presence of non-organic finds indicates that material from both funerary and non-funerary contexts was being redeposited within grave fills, further complicating the taphonomic history that needs to be unpicked to provide reliable interpretation. Where clear association is more apparent across the scheme, it appears that plants and animals (other than wood used as pyre fuel), did not play a major role in burial rites at the sites located on the A1 scheme. However, as with most organic remains, it is likely that the representation of such remains has been adversely affected by post-depositional processes, which will have impacted less on other items used in burial rites in the past.

CHAPTER 10
SCIENTIFIC ANALYSES

Joanna Moore and Derek Hamilton, with a contribution from Greg Speed

INTRODUCTION

Greg Speed

As part of the radiocarbon dating programme undertaken across the whole of the A1 scheme, a total of 229 samples (from both the evaluation and excavation phases of the project) associated with the material addressed in this volume were selected for submission to the Scottish Universities Environmental Research Centre AMS Facility (SUERC). A staged approach was taken to the dating programme, with samples submitted in batches with sufficient intervals to review the results against other data. Radiocarbon dates were sought for all articulated human remains, together with all major groups of cremated human bone and, in the case of Bowbridge Lane, some associated features. In some specific cases, samples of disarticulated human bone were also submitted in order to answer specific research questions. Of these 229 samples, 57 failed (25%). The 172 successful radiocarbon determinations provided scientific dates for 119 inhumations, 32 cremation deposits, five funerary-related deposits (see Chapter 2) and three samples of disarticulated human bone. The full results from the radiocarbon dating programme can be found in Appendix D, which is available via the ADS.

In order to avoid obtaining false dates for burials, and in view of the possibility of residuality, curation of objects used as grave goods, or intrusion of later materials into graves, the preferred material for radiocarbon assay was human bone. However, for the prehistoric burial site at Bowbridge Lane (Field 145), two samples from hazelnut shell were also submitted in order to provide a chronological context for the deposition of the cremated human remains, some of which appeared to have been redeposited. Within the human skeleton, bone is continually being remodelled and replaced, occurring more rapidly during childhood and adolescence and at a decreased rate in adulthood; however, there is considerable variation between individuals (Hedges *et al*. 2007, 814). In addition, different bones are believed to be replaced at different rates (*ibid*., 809). The major exception to this is the teeth, which are formed at various stages during childhood development but thereafter remain isotopically fixed. Since the main archaeological objective in dating human remains is to determine the date of death (and usually the date of the subsequent burial process and associated artefacts), it is desirable to sample the 'youngest' parts of the skeleton and archaeological samples are routinely taken from ribs. However, on the A1 scheme, these elements were frequently not well preserved, and in most instances other parts of the skeleton had to be substituted as available.

For Bainesse Cemetery, as soon as radiocarbon dating results were returned, they were entered onto a stratigraphic matrix, together with dating evidence derived from pottery and other artefacts. This approach immediately highlighted those results that were inconsistent with the other data, which in some cases informed the decision to obtain a second date for specific contexts. Examples include individuals at the end of stratigraphic sequences who returned dates significantly earlier than the preceding burials, individuals who returned dates earlier than the dating of securely associated grave goods (notably pottery), and in one case a burial that returned a date much later than any other burial within the cemetery.

Due to the generally poor state of preservation of many of the human remains, particularly within Bainesse Cemetery and at Scurragh House, there was a high rate of failure to obtain radiocarbon results due to insufficient collagen surviving within the samples. Where sufficient skeletal material was available, second samples from the 'failures' were submitted. A review was then undertaken of those skeletons that had failed twice, determining their significance to the overall dating scheme. A third sample (and in one case a fourth sample) was only submitted for a small number of individuals considered significant due to stratigraphic relationships to other burials. Second samples were submitted (due to initial failure) from 28 individuals, of which 11 were successful. Of the failures, a third sample was submitted from five individuals, of which none were successful. However, in the one case where a fourth sample was submitted (Grave **130** in Bainesse Cemetery), this contained sufficient collagen to return a radiocarbon date.

Within the cemetery at Bainesse (Field 163C), there were a large number of successful radiocarbon dates (108 dates from 102 individuals), dateable grave goods, and many stratigraphic relationships between the burials. This made the dataset from this site an ideal candidate for Bayesian modelling, and the methodology and results

of this work are set out below.

The large quantity of radiocarbon data generated by the project also provided data suitable to carry out a dietary carbon and nitrogen (C:N) stable isotope study of the dated population. The Roman population of the Catterick area has been the subject of two previous, smaller stable isotope studies. Samples from inhumations found at several of the sites at Bainesse and *Cataractonium* (Wilson 2002a) (excepting the Yorkshire Water Depot site in Brompton) were studied by Chenery *et al*. (2011). These included bones from 42 individuals that underwent dietary analysis. Teeth were also taken from 26 individuals who were included in a wider project, which used oxygen and strontium (O:Sr) stable isotopes to examine the geographic origins of Roman populations from several sites across the province (Eckardt *et al*. 2010). A second study, including analysis of both C:N and O:Sr stable isotopes, has since been undertaken using samples from nine of the burials at Hollow Banks farm (Eckardt *et al*. 2015). For dietary (C:N) analysis, the new programme of work described below greatly expands upon the existing body of data and provides a valuable basis for further avenues of research beyond the extent of the current project.

STABLE LIGHT ISOTOPE ANALYSES

Joanna Moore (Durham University)

Stable light isotope analysis of carbon ($\delta^{13}C$) and nitrogen ($\delta^{15}N$) is a well-established technique for the reconstruction of palaeodiets using archaeological teeth and bones. Within these two tissue types, collagen is the predominant protein present and provides a rich source of averaged $^{13}C/^{12}C$ and $^{15}N/^{14}N$ values. The composition of these carbon and nitrogen (C:N) ratios reflects the isotopic composition of the foods consumed during the tissue's formation (van der Merwe and Vogel 1978; Schoeninger *et al*. 1983; Kohn 1999; Richards *et al*. 2006). This is due to the metabolism and reuse of dietary proteins acquired from the plant and animal products consumed during life in collagen synthesis. Therefore, once metabolic fractionation has been accounted for, these C:N ratios can be used to garner insights into not only the types and quantities of food resources utilised by a population, but also the socioeconomic and cultural influences surrounding the dietary practices of groups, as well as individuals (Dietler 2007).

The variations that arise in carbon ($\delta^{13}C$) values result from differences in ecosystems (marine vs. terrestrial) and the photosynthetic pathways (C_3 and C_4) used by plants in their manufacture of carbohydrates. As such, variations in carbon values allows differentiation between the relative contribution of C_3 or C_4 plants, and the animal products based on these plants, to diet (Ambrose *et al*. 1997; Camin *et al*. 2008; Beaumont *et al*. 2013). In temperate regions, such as Britain, plants tend to use the C_3 pathway. Therefore, isotopic evidence of dietary proteins based on C_4 plants (e.g. maize or millet) not native to Britain, would suggest a foreign influence on diet within a British population. Variability in nitrogen isotope values reflects the balance between biological nitrogen fixation, biosphere recycling and nitrogen release (Robinson 2001). This variability facilitates the visualisation of terrestrial and marine food source input into diet as marine-based food sources tend to be more enriched in ^{15}N than land-based food sources (Lui and Kaplan 1989). In addition, nitrogen levels also vary with trophic level, as a result of metabolic fractionation, creating a 2–6‰ enrichment with every trophic level shift (Schoeninger and DeNiro 1984). This shift is most noticeable in marine food consumers as aquatic food sources have high nitrogen values owing to the relatively long food chains compared to those observed in terrestrial food sources (Tykot 2004). As such, combining the analysis of carbon and nitrogen values can facilitate the interpretation of plant, animal and marine protein contributions to palaeodiets, allowing for distinctions to be made between broad categories of food groups, such as herbivore vs. carnivore or marine vs. terrestrial input (Ambrose and Katzenberg 2000).

A1 SCHEME HUMAN CARBON AND NITROGEN ISOTOPE ANALYSES

Stable carbon and nitrogen isotope analysis of the A1 scheme human remains was undertaken with the aim of providing insights into the population's diet, and to determine if there was any discernible transition in dietary practices between the Roman and Anglian populations recovered. The $\delta^{13}C$ and $\delta^{15}N$ isotope data from the A1 scheme was produced by SUERC during recent AMS radiocarbon dating, the results of which are presented in Tables 10.1 and 10.2. This dataset provided carbon and nitrogen values for a total of 120 individuals from four sites across the A1 scheme (Bainesse n=94; Cataractonium n=23; Scotch Corner n=2; and Low Street n=1). As there were no discrete groupings between or within the sites (see Fig. 10.1), all further discussions will refer to the sites collectively as the A1 assemblage.

Roman burials

The $\delta^{13}C$ values for the Roman human remains recovered during the A1 assemblage ranged between –21.8‰ and –18.2‰ (mean –20.1‰ ± 0.6‰, 1σ), while the $\delta^{15}N$ values ranged between 8.7‰ and 13.4‰ (mean 10.6‰ ± 0.7‰, 1σ). Although the A1 Roman assemblage shows some variability, producing carbon and nitrogen ranges of 3.6‰ and 4.4‰ respectively, the majority of individuals plot within 2σ of the mean (see Fig. 10.2). This dietary

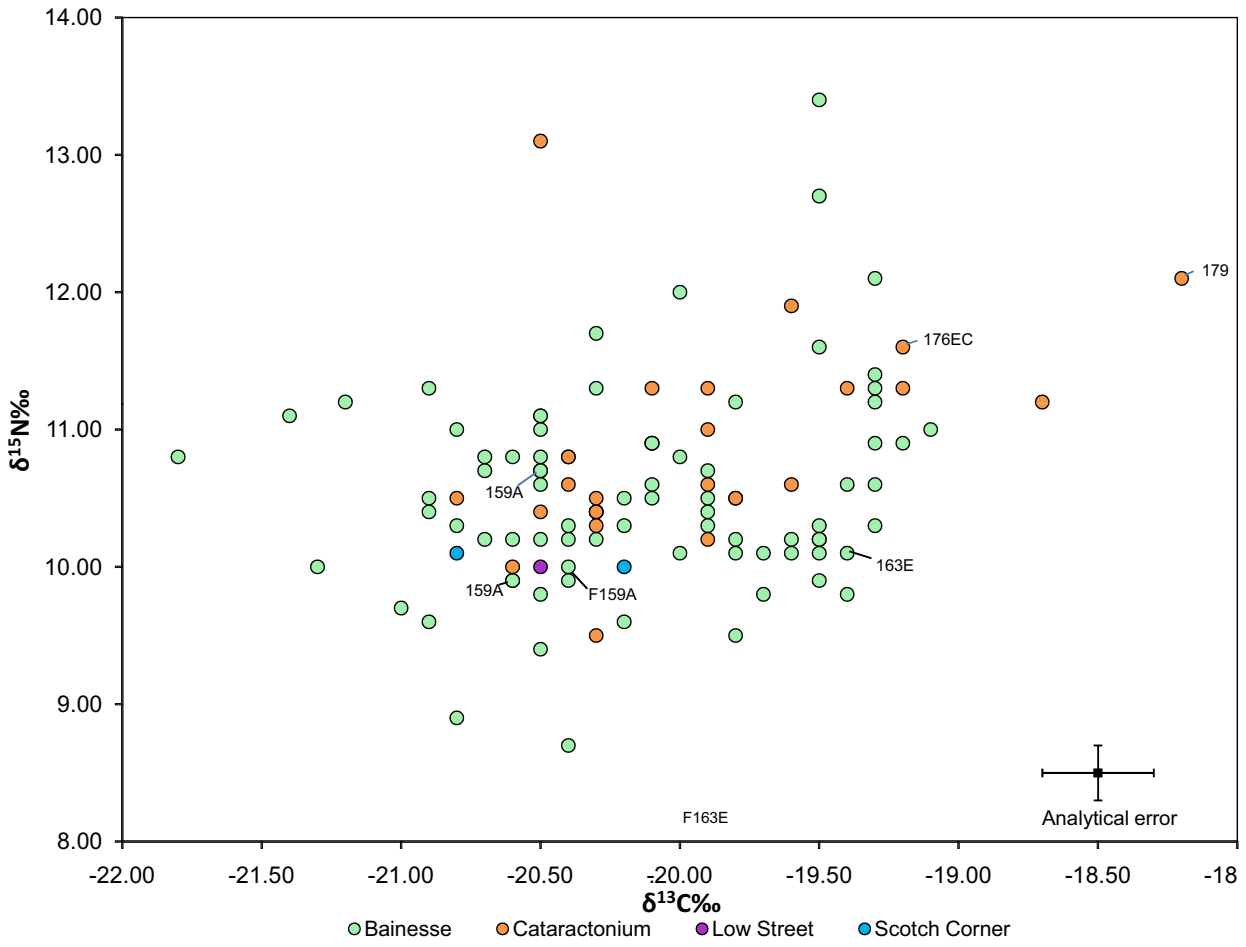


Figure 10.1: plot showing δ13C and δ15N values for the human remains from A1 scheme assemblage. Individuals are grouped by field.

data is consistent with consumption patterns seen at other contemporary sites, such as Catterick (Chenery *et al.* 2011), Driffield Terrace, York (Müldner *et al.* 2011), and Gloucester (Cheung *et al.* 2011), and suggests a largely terrestrial (C_3-based), omnivorous diet typical of Roman Britain (Müldner and Richards 2007). The 4.6‰ difference in $\delta^{15}N$ between humans and the Bainesse faunal baseline (mean $\delta^{13}C$ −21.6‰ ± 0.2‰, $\delta^{15}N$ 5.7‰ ± 1‰) taken from Chenery *et al.* (2011) suggests that animal protein constituted a large proportion of their diet, with possible contributions from ^{15}N-enriched foods, such as pork or freshwater/marine resources (Hedges and Reynard 2007; Müldner and Richards 2007). Although not thought to be a common component of Roman diets, there have been occasions where freshwater fish was consumed as part of a Romano-British diet (Nehlich *et al.* 2011; Müldner 2013). With the proximity to the River Swale and freshwater and diadromous fish remains recovered at the site (Russ forthcoming), freshwater/marine resources could have comprised a small proportion of the diet for some individuals.

There were seven individuals within the Roman dataset that had carbon and nitrogen values falling outside the 2σ range for the population (labelled/circled on Fig. 10.2). Differences such as these are not uncommon and can result from a number of factors, such as isolated dietary differences or the presence of physiological/metabolic stress (Hedges and Reynard 2007). Three individuals stand out due to their high $\delta^{15}N$ value (circled in Fig. 10.2). These individuals were young juveniles, approximately two to four years old (Skeleton 13194, Grave **219**; Skeleton 13199, Grave **199**; Skeleton 20120, Grave **20114**; see Chapter 3 and discussion of the human remains in Chapter 6). Although it has been shown that there was variability in weaning times during the Roman period (Laes 2011; Larsen 2015) there are both literary and bioarchaeological evidence for the continuation of breastfeeding up until the age of three years (Dupras *et al.* 2001; Prowse *et al.* 2008). As such, it is plausible that breast milk was still a component of these children's diet and would account for the 2.5–3.2‰ ^{15}N enrichment from the group mean. An adult individual of indeterminate sex (Skeleton 12661, Grave **67**) also stood out as a result of their nitrogen value, which was more than 2σ below the group mean. Low nitrogen values tend to indicate a diet with a restricted intake of meat and/or animal-based products, such as milk, cheese or eggs. It is clear that these individuals had a terrestrial C_3-based

Table 10.1: radiocarbon dates from Bainesse Cemetery. The modelled radiocarbon date is derived from the marine reservoir corrected chronological model presented in the text.

Lab ID	Grave [Skeleton/ Cremation]	Material dated	δ13C (‰)	δ15N (‰)	C:N	Radiocarbon Age (BP)	%Marine (±10%)	Modelled radiocarbon date (95% probability)
Inhumations								
SUERC-67733	Grave 6 [SK13342]	Human bone: rib	−19.3	10.6	3.3	1906 ±32	16	—
SUERC-76347	Grave 6 [SK13342]	Human bone:	−19.2	11.2	3.3	1925 ±31	17.3	—
Combine Grave 6; SK13342		n=2; Acomb=113.0%(An=50.0%)	—	—	—	—	—	cal AD 155–235
SUERC-67731	Grave 7 [SK13328]	Human bone: clavicle shaft	−19.5	11.6	3.3	1794 ±32	13.6	—
SUERC-76346	Grave 7 [SK13328]	Human bone:	−19.9	11.5	3.3	1837 ±28	8.6	—
Combine Grave 7; SK13328		n=2; Acomb=89.4%(An=50.0%)	—	—	—	—	—	cal AD 180–200 (3%) or cal AD 205–345 (92%)
SUERC-74417	Grave 8 [SK13281]	Human bone:	−20.0	10.8	3.2	1788 ±25	7.4	cal AD 215–390
SUERC-73006	Grave 10 [SK13265]	Human bone:	−20.4	10.2	3.2	1864 ±29	2.5	cal AD 170–265 (84%) or cal AD 275–325 (11%)
SUERC-67722	Grave 15 [SK13168]	Human bone: rib	−20.6	10.2	3.4	1734 ±32	—	cal AD 255–395
SUERC-67724	Grave 16 [SK13192]	Human bone: rib	−19.5	10.3	3.2	1790 ±32	13.6	cal AD 180–200 (2%) or cal AD 205–360 (93%)
SUERC-67725	Grave 17 [SK13260]	Human bone: rib	−19.2	10.9	3.2	1840 ±32	17.3	cal AD 155–305
SUERC-72986	Grave 18 [SK13175]	Human bone:	−20.5	9.4	3.3	1851 ±26	1.2	cal AD 175–335
SUERC-67727	Grave 22 [SK13275]	Human bone: rib	−19.1	11	3.3	1896 ±32	18.5	cal AD 155–330
SUERC-72999	Grave 23a [SK13197]	Human bone:	−20.8	11	3.3	1866 ±25	—	cal AD 160–240
SUERC-72978	Grave 23b [SK13203]	Human bone:	−21.4	10.7	3.5	1725 ±29	—	—
SUERC-73010	Grave 23b [SK13203]	Human bone:	−21.8	10.8	3.5	1662 ±26	—	—
Mean Grave 23b; SK13203		T′=2.6; ν=1; T′(5%)=3.8	—	—	—	1690 ±20	—	cal AD 260–280 (7%) or cal AD 325–410 (88%)
SUERC-72974	Grave 26 [SK13157]	Human bone:	−20.5	10.2	3.6	1756 ±26	1.2	cal AD 240–390
SUERC-72975	Grave 27 [SK13216]	Human bone:	−20.4	10.8	3.3	1734 ±26	2.5	cal AD 255–410
SUERC-72979	Grave 28 [SK13213]	Human bone:	−21.2	11.2	3.6	1790 ±29	—	cal AD 170–330
SUERC-72969	Grave 41 [SK12737]	Human bone:	−20.8	10.3	3.5	1731 ±29	—	cal AD 260–390
SUERC-72958	Grave 44 [SK12771]	Human bone:	−20.7	10.8	3.5	1741 ±26	—	cal AD 230–345
SUERC-67701	Grave 57 [SK12693]	Human bone: rib	−20.9	9.6	3.6	1650 ±32	—	cal AD 260–275 (1%) or cal AD 330–435 (94%)

Table 10.1 (cont.): radiocarbon dates from Bainesse Cemetery. The modelled radiocarbon date is derived from the marine reservoir corrected chronological model presented in the text.

Lab ID	Grave [Skeleton/ Cremation]	Material dated	δ13C (‰)	δ15N (‰)	C:N	Radiocarbon Age (BP)	%Marine (±10%)	Modelled radiocarbon date (95% probability)
SUERC-72976	Grave 61 [SK12655]	Human bone:	−20.4	10.3	3.4	1871 ±29	2.5	cal AD 175–265 (77%) or cal AD 275–330 (18%)
SUERC-74411	Grave 62 [SK12678]	Human bone:	−21.0	9.7	3.4	1796 ±27	—	cal AD 145–260
SUERC-72959	Grave 67 [SK12661]	Human bone:	−20.4	8.7	3.5	1845 ±29	2.5	cal AD 155–265 (81%) or cal AD 275–330 (14%)
SUERC-72977	Grave 71 [SK12599]	Human bone:	−20.3	11.7	3.6	1834 ±29	3.7	cal AD 165–335
SUERC-67707	Grave 77 [SK13027]	Human bone: rib	−19.8	9.5	3.2	1896 ±32	9.9	cal AD 150–265
SUERC-67694	Grave 78 [SK12573]	Human bone: rib	−20.7	10.7	3.3	1732 ±32	—	cal AD 240–390
SUERC-67703	Grave 86 [SK12748]	Human bone: rib	−19.3	10.9	3.2	1916 ±32	16	cal AD 150–255
SUERC-67702	Grave 87 [SK12731]	Human bone: rib	−19.9	10.3	3.3	1828 ±32	8.6	cal AD 185–355 (94%) or cal AD 370–380 (1%)
SUERC-72989	Grave 92 [SK12461]	Human bone:	−20.5	11.1	3.3	1777 ±29	1.2	cal AD 215–390
SUERC-72994	Grave 92 [SK12454]	Human bone:	−20.5	11	3.4	1817 ±29	1.2	cal AD 165–340
SUERC-73008	Grave 99 [SK12980]	Human bone:	−19.3	11.2	3.2	1762 ±29	16	cal AD 245–415
SUERC-73015	Grave 102 [SK12936]	Human bone:	−19.3	12.1	3.1	1848 ±29	16	cal AD 160–350
SUERC-72990	Grave 106 [SK12886]	Human bone:	−20.1	10.9	3.6	1763 ±29	6.2	cal AD 235–400
SUERC-67697	Grave 119 [SK12665]	Human bone: rib	−19.5	10.2	3.3	1829 ±32	13.6	cal AD 165–350
SUERC-67695	Grave 120 [SK12622]	Human bone: left fibula	−20.2	9.6	3.4	1719 ±32	4.9	cal AD 255–425
SUERC-67705	Grave 123 [SK12871]	Human bone: rib	−20.3	10.2	3.4	1723 ±32	3.7	cal AD 245–385
SUERC-67693	Grave 124 [SK12561]	Human bone: rib	−20.7	10.2	3.4	1705 ±32	—	cal AD 315–420
SUERC-72980	Grave 125 [SK12595]	Human bone:	−20.3	11.3	3.4	1824 ±29	3.7	cal AD 230–360
SUERC-77044	Grave 130 [SK12987]	Human bone:	−20.1	10.9	3.6	1772 ±25	6.2	cal AD 210–335
SUERC-72987	Grave 133 [SK12646]	Human bone:	−19.4	10..6	3.2	1856 ±29	14.8	cal AD 160–340
SUERC-67696	Grave 135a,b [SK12641]	Human bone: rib	−19.8	10.2	3.4	1649 ±32	9.9	cal AD 345–465
SUERC-67706	Grave 140 [SK12996]	Human bone: rib	−19.7	9.8	3.4	1743 ±32	11.1	cal AD 245–380
SUERC-72967	Grave 142 [SK12880]	Human bone:	−20.3	10.4	3.2	1801 ±29	3.7	cal AD 175–330
SUERC-72960	Grave 143 [SK12852]	Human bone:	−20.5	10.4	3.3	1868 ±29	1.2	—
SUERC-75049	Grave 143 [SK12852]	Human bone:	−20.4	10.7	3.4	1720 ±33	2.5	cal AD 330–430
SUERC-67704	Grave 144 [SK12860]	Human bone: rib	−20.0	10.1	3.3	1724 ±32	7.4	cal AD 265–410

Table 10.1 (cont.): radiocarbon dates from Bainesse Cemetery. The modelled radiocarbon date is derived from the marine reservoir corrected chronological model presented in the text.

Lab ID	Grave [Skeleton/ Cremation]	Material dated	δ13C (‰)	δ15N (‰)	C:N	Radiocarbon Age (BP)	%Marine (±10%)	Modelled radiocarbon date (95% probability)
SUERC-72968	Grave 153 [SK13201]	Human bone:	−20.2	10.5	3.2	1796 ±29	4.9	cal AD 245–390
SUERC-74410	Grave 154 [SK12580]	Human bone:	−19.6	10.1	3	1805 ±30	12.3	cal AD 215–340
SUERC-72964	Grave 156 [SK12606]	Human bone:	−20.3	10.4	3.3	1863 ±29	3.7	cal AD 170–265 (90%) or cal AD 275–315 (5%)
SUERC-67723	Grave 158 [SK13170]	Human bone: left fibula	−19.9	10.5	3.3	1820 ±32	8.6	cal AD 150–255
SUERC-76683	Grave 160 [SK12449]	Human bone:	−20.9	11.3	3.8	1606 ±32	—	cal AD 380–470
SUERC-76684	Grave 165b [SK12722]	Human bone:	−19.3	10.3	3.3	1655 ±32	16	cal AD 345–470
SUERC-73005	Grave 175 [SK13161]	Human bone:	−21.0	10.5	3.4	1066 ±29	—	—
SUERC-75045	Grave 175 [SK13161]	Human bone:	−20.8	10.2	3.6	1028 ±33	—	—
Mean Grave 175; SK13161		T′=0.7; ν=1; T′(5%)=3.8	—	—	—	1050 ±22	—	cal AD 905–920 (3%) or cal AD 965–1025 (92%)
SUERC-74412	Grave 178 [SK13144]	Human bone:	−21.3	10	3.4	1603 ±29	—	cal AD 385–465
SUERC-74413	Grave 178 [SK13150]	Human bone:	−20.8	8.9	3.4	1649 ±30	—	cal AD 330–435
SUERC-73014	Grave 181 [SK12868]	Human bone:	−19.9	10.7	3	1808 ±26	8.6	cal AD 175–380
SUERC-72957	Grave 183 [SK12716]	Human bone:	−19.8	10.1	3.3	1771 ±29	9.9	cal AD 230–400
SUERC-72996	Grave 184 [SK12495]	Human bone:	−20.4	9.9	3.2	1877 ±29	2.5	cal AD 150–260 (93%) or cal AD 300–320 (2%)
SUERC-73004	Grave 185 [SK12618]	Human bone:	−20.9	10.5	3.6	1518 ±25	—	cal AD 425–465
SUERC-72988	Grave 186 [SK12652]	Human bone:	−20.0	12	3.3	1765 ±29	7.4	cal AD 235–400
SUERC-67692	Grave 187 [SK12557]	Human bone: rib	−20.6	9.9	3.5	1510 ±32	—	cal AD 420–465
SUERC-72995	Grave 194 [SK12427]	Human bone:	−19.3	11.3	3.2	1713 ±26	16	cal AD 255–285 (5%) or cal AD 320–450 (90%)
SUERC-67716	Grave 197a [SK13146]	Human bone: rib	−20.3	10.4	3.2	1678 ±32	3.7	cal AD 260–300 (8%) or cal AD 320–420 (87%)
SUERC-67717	Grave 198 [SK13152]	Human bone: rib	−19.5	10.2	3.3	1764 ±32	13.6	cal AD 240–380
SUERC-75897	Grave 199 [SK13199]	Human bone:	−19.5	12.7	3.2	1831 ±26	13.6	cal AD 170–330
SUERC-72984	Grave 201 [SK12474]	Human bone:	−19.9	10.4	3.3	1791 ±29	8.6	cal AD 205–385
SUERC-73007	Grave 202 [SK12698]	Human bone:	−20.2	10.3	3.1	1852 ±29	4.9	cal AD 150–265 (91%) or cal AD 280–320 (4%)
SUERC-72985	Grave 205 [SK12833]	Human bone:	−20.5	10.7	3.3	1787 ±25	1.2	cal AD 210–385
SUERC-67714	Grave 208 [SK13111]	Human bone: rib	−19.4	9.8	3.2	1655 ±32	14.8	cal AD 345–455

Table 10.1 (cont.): radiocarbon dates from Bainesse Cemetery. The modelled radiocarbon date is derived from the marine reservoir corrected chronological model presented in the text.

Lab ID	Grave [Skeleton/ Cremation]	Material dated	δ13C (‰)	δ15N (‰)	C:N	Radiocarbon Age (BP)	%Marine (±10%)	Modelled radiocarbon date (95% probability)
SUERC-67712	Grave 209 [SK13080]	Human bone: rib	−20.1	10.6	3.4	1581 ±32	6.2	cal AD 410–470
SUERC-67732	Grave 213 [SK13340]	Human bone: rib	−20.5	9.8	3.3	1758 ±32	1.2	cal AD 230–400
SUERC-74409	Grave 216 [SK12763]	Human bone:	−21.4	11.1	3.3	1555 ±30	—	cal AD 410–470
SUERC-20369	Grave 217 [SK430]	Human bone:	−20.7	—	—	1515 ±35	—	—
SUERC-39626	Grave 217 [SK430]	Human bone:	−20.7	10.8	3.3	1585 ±35	—	—
Mean Grave 217; SK430		T′=2.0; ν=1; T′(5%)=3.8	—	—	—	1550 ±25	—	cal AD 420–465
SUERC-75896	Grave 219 [SK13194]	Human bone:	−19.5	13.4	3.2	1828 ±29	13.6	cal AD 170–380
SUERC-72997	Grave 222 [SK13344]	Human bone:	−20.1	10.5	3.2	1796 ±29	6.2	cal AD 170–350
SUERC-76682	Grave 229a [SK13060]	Human bone:	−19.3	11.4	3.2	1821 ±32	16	cal AD 175–375
SUERC-73000	Grave 229b [SK13079]	Human bone:	−19.5	10.1	3.2	1883 ±29	13.6	cal AD 155–265 (86%) or cal AD 275–325 (9%)
SUERC-73009	Grave 231 [SK13188]	Human bone:	−19.5	9.9	3	1807 ±29	13.6	cal AD 185–390
SUERC-67721	Grave 234 [SK13165]	Human bone: rib	−20.5	10.8	3.4	1657 ±32	1.2	cal AD 335–460
SUERC-67726	Grave 235 [SK13274]	Human bone: rib	−19.6	10.2	3.2	1826 ±32	12.3	cal AD 170–380
SUERC-67711	Grave 237a [SK13076]	Human bone: rib	−20.5	11.1	3.5	1573 ±32	1.2	cal AD 405–470
SUERC-67713	Grave 237b [SK13104]	Human bone: rib	−20.6	10.8	3.3	1649 ±32	—	cal AD 350–435
SUERC-72966	Grave 238 [SK13132]	Human bone:	−20.1	10.9	3	1699 ±29	6.2	cal AD 255–300 (11%) or cal AD 320–420 (84%)
SUERC-67715	Grave 239 [SK13135]	Human bone: rib	−19.8	10.5	3.3	1724 ±32	9.9	cal AD 250–410
SUERC-72970	Grave 240 [SK13181]	Human bone:	−19.8	11.2	3.2	1851 ±28	9.9	cal AD 160–330
SUERC-67691	Grave 244 [SK12310]	Human bone: tibia	−20.5	10.7	3.3	1680 ±32	1.2	cal AD 325–455
SUERC-75898	Grave 254 [SK12803]	Human bone:	−19.7	10.1	2.9	1815 ±25	11.1	cal AD 175–380
Cremations								
SUERC-73400	Grave 257 [Crem 12400]	Cremated human bone	−18.9	—	—	1935 ±32	—	—
SUERC-75035	Grave 257 [Crem 12400]	Cremated human bone	−26.4	—	—	1940 ±34	—	—
Mean Grave 257; Crem 12400		T′=0.0; ν=1; T′(5%)=3.8		—	—	1937 ±24	—	cal AD 150–420
SUERC-75034	Grave 258 [Crem 12414]	Cremated human bone	−22.8	—	—	1815 ±34	—	cal AD 175–440

Table 10.1 (cont.): radiocarbon dates from Bainesse Cemetery. The modelled radiocarbon date is derived from the marine reservoir corrected chronological model presented in the text.

Lab ID	Grave [Skeleton/ Cremation]	Material dated	δ13C (‰)	δ15N (‰)	C:N	Radiocarbon Age (BP)	%Marine (±10%)	Modelled radiocarbon date (95% probability)
SUERC-73399	Grave 259 [Crem 12685]	Cremated human bone	−22.1	—	—	1785 ±32	—	cal AD 200–400
SUERC-73398	Grave 260 [Crem 12350]	Cremated human bone	−19.4	—	—	1781 ±32	—	cal AD 265–460
SUERC-73394	Grave 261 [Crem 12356]	Cremated human bone	−20.2	—	—	1824 ±32	—	cal AD 230–450
SUERC-75043	Grave 262 [Crem 12322]	Cremated human bone	−21.6	—	—	1834 ±33	—	cal AD 340–470
SUERC-75039	Grave 263 [Crem 12343]	Cremated human bone	−20.0	—	—	1840 ±34	—	cal AD 345–470
SUERC-75040	Grave 264 [Crem 12300]	Cremated human bone	−22.4	—	—	1818 ±33	—	cal AD 175–435
SUERC-75033	Grave 265 [Crem 12318]	Cremated human bone	−20.3	—	—	1841 ±34	—	cal AD 170–435
SUERC-73402	Grave 266 [Crem 12312]	Cremated human bone	−21.0	—	—	1875 ±32	—	cal AD 160–425
SUERC-73393	Grave 267 [Crem 12311]	Cremated human bone	−22.0	—	—	1784 ±32	—	cal AD 195–450
SUERC-75041	Grave 269 [Crem 12297]	Cremated human bone	−25.5	—	—	1806 ±33	—	cal AD 180–440
SUERC-75044	Grave 270 [Crem 12320]	Cremated human bone	−20.8	—	—	1783 ±33	—	cal AD 195–450
SUERC-73403	Grave 271 [Crem 13071]	Cremated human bone	−22.0	—	—	1840 ±32	—	cal AD 170–435
SUERC-73401	Grave 272 [Crem 13063]	Cremated human bone	−22.8	—	—	1868 ±32	—	cal AD 160–430
SUERC-75050	Grave 273 [Crem 12352]	Cremated human bone	−24.8	—	—	1748 ±34	—	cal AD 250–455
SUERC-73521	Grave 274 [Crem 13125]	Cremated human bone	−23.2	—	—	1972 ±31	—	—
SUERC-75042	Grave 274 [Crem 13125]	Cremated human bone	−23.0	—	—	1787 ±34	—	cal AD 235–460

Table 10.2: stable δ13C and δ15N values for the human remains from A1L2B road improvement scheme (all values were obtained by SUERC, 2017).

Site	Period	Field	Skeleton No.	Sex	Element	d13C‰ (VPDB)	d15N‰ (AIR)	C:N
Bainesse	Roman	159A	SK13437	?M	Rib	-20.5	10.7	3.1
Bainesse	Roman	159A	SK13454	M	Rib	-20.4	10	3
Bainesse	Roman	159A	SK13474	M	Metatarsal	-20.6	9.9	3.1
Bainesse	Roman	163E	SK13592	?F	Ulna	-19.4	10.1	3.1
Cataractonium	Roman	176EC	Disart.	?F	Femur	-19.2	11.6	3.2
Cataractonium	Roman	177	SK20573	I	Ulna	-20.1	11.3	3.3
Cataractonium	Roman	177	SK20604	I	Femur	-19.9	11	3.2
Cataractonium	Roman	177	SK20615	I	Tibia	-20.5	10.4	3.2
Cataractonium	Roman	177	SK20691	I	Rib	-18.7	11.2	3.2
Cataractonium	Roman	177	SK20721	I	Humerus	-19.9	11.3	3.2
Cataractonium	Roman	177	SK20813	I	Fibula	-20.3	10.4	3.2
Cataractonium	Roman	177	SK20844	I	Rib	-19.9	10.6	3.1
Cataractonium	Roman	177	SK20957	I	Rib	-20.4	10.6	3.2
Cataractonium	Roman	177	SK20962	I	Rib	-19.9	10.2	3.2
Cataractonium	Roman	178	SK20116	I	Rib	-20.3	10.5	3.1
Cataractonium	Roman	178	SK20117	I	Tibia	-20.4	10.8	3.4
Cataractonium	Roman	178	SK20118	I	Femur	-20.8	10.5	3.3
Cataractonium	Roman	178	SK20120	I	Rib	-20.5	13.1	3.2
Cataractonium	Roman	178	SK20190	I	Tibia	-19.4	11.3	3.3
Cataractonium	Roman	178	SK20197	I	Femur	-20.3	10.3	3.1
Cataractonium	Roman	178	SK20342	I	Ulna	-19.2	11.3	3.2
Cataractonium	Roman	178	SK20395	I	Fibula	-20.6	10	3.3
Cataractonium	Roman	178	SK20416	I	Rib	-20.3	9.5	3.2
Cataractonium	Roman	178	SK20475	I	Femur	-19.6	11.9	3.3
Cataractonium	Roman	178	SK20477	I	Tibia	-19.6	10.6	3.2
Cataractonium	Roman	178	SK20585	I	Tibia	-19.8	10.5	3.2
Cataractonium	Roman	179	SK9091	I	Femur	-18.2	12.1	3.3
Low Street	Roman	261	SK7182	M	Rib	-20.5	10	3.3
Scotch Corner	Anglian	265	SK31508	I	Fibula	-20.8	10.1	3.3
Scotch Corner	Anglian	265	SK31534	I	Rib	-20.2	10	3.1

Key: M = Male, ?M = Possible male, F = Female, ?F = Possible female, I = Indeterminate

diet and, as they produced nitrogen values above that of the contemporary animal remains from the site, it is unlikely that their diet was completely devoid of animal protein. However, the low values do suggest that they had a limited intake of animal-based products relative to the rest of the population.

The three remaining Roman outliers all had carbon values that plot outside the 2σ range for the A1 scheme assemblage. Two non-adult individuals, Skeleton 20691 (Grave **20621**; older juvenile, 7–12 years) and Skeleton 9091 (Grave **9343**; neonate, 0–1 month), had high carbon values of −18.7‰ and −18.2‰ respectively. Such values are not unique in Romano-British populations, with similar carbon and nitrogen values observed in a small number of individuals at Hollow Banks Quarry site in Scorton, located close to the A1 just north of Catterick (Eckardt *et al*. 2015), and Driffield Terrace, York (Müldner *et al*. 2011). The high carbon values at these sites were interpreted as the possible incorporation of low trophic level marine foods, such as shellfish, or a small contribution of C_4-based food sources, such as millet, to their diets, which may indicate origins outside of Britain (Richards and Hedges 1999; Müldner *et al*. 2011; Eckardt *et al*. 2015). It is possible that the same holds true for the juvenile from the A1 scheme, especially with regards to the incorporation of low level marine foods into their diet. This can be supported by the presence of edible marine shellfish remains at *Cataractonium*, which included notable quantities of oyster (*Ostrea edulis*) and mussel (*Mytilus edulis*), as well as smaller numbers of limpet (*Patella vulgata*), cockle (*Cerastoderma edule*),

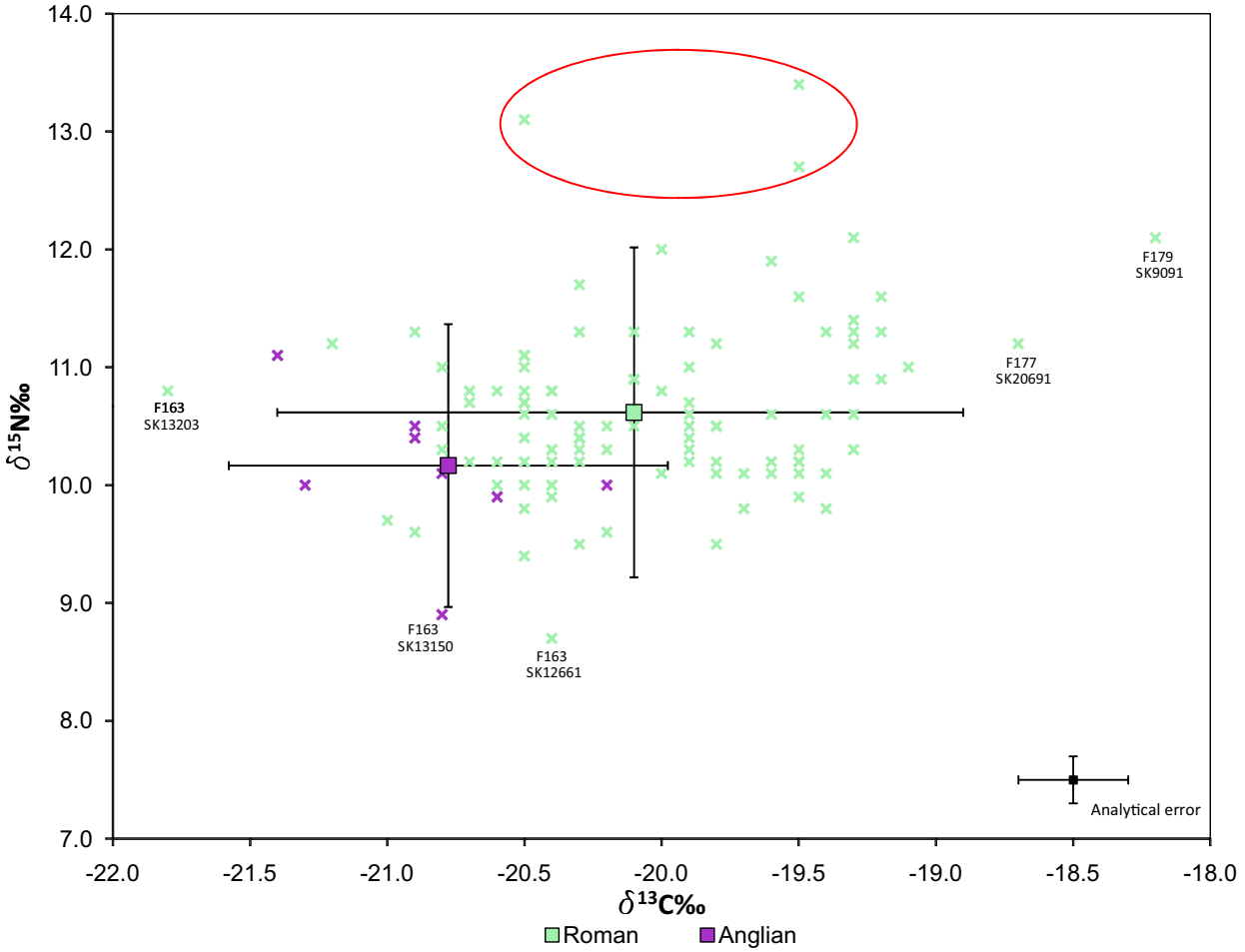


Figure 10.2: plot showing δ13C and δ15N values from the A1 individuals. Also showing the mean δ13C and δ15N (±2σ) for each group. Outliers circled in red are three children under the age of 3 years.

whelk (*Buccinum undatum*) and periwinkle (*Littorina litorea*) that were recovered during the recent A1 scheme excavations (Russ and Gardiner forthcoming). However, considering the age of Skeleton 9091, it is unlikely that this neonates's carbon and nitrogen values reflect a direct intake of C_4 or marine-based foods, as it was most likely still being exclusively breastfed. Of course, not all newborns were breastfed during the Roman period, and in the absence of a breastfeeding mother or wet nurse, newborrns were artificially fed animal milk as a substitute via some form of vessel (Wickes 1953; Stevens *et al.* 2009). If this neonate was being artificially fed, the carbon and nitrogen values would reflect that of a C_3-based omnivorous diet with no C_4 input. However, the high values obtained for this individual suggest that the neonate was probably being breastfed by a female with a small C_4 component or marine foods in her diet. The final outlier within the A1 Roman assemblage is an adult of indeterminate sex (Skeleton 13203, Grave **23**). The low carbon value for this individual (–21.8‰) indicates that their diet was dominated by C_3-based food sources. Based on their nitrogen value, they also appear to be consuming animal products, which is comparable with the majority of the population.

Faunal evidence suggests that a typical Romano-British diet primarily consisted of beef, pork and domestic fowl (Maltby 1997; Gerrard 2007; Albarella 2008). Shellfish and marine resources were considered somewhat of a luxury, enjoyed predominantly by the upper classes and consumption of these food types seems to have been mostly restricted to urban or military settlements (Cool 2006; Locker 2007; Cheung *et al.* 2012). It would appear that the majority of the Roman individuals from the A1 scheme had dietary practices consistent with this terrestrial C_3 dominated diet, with a small amount of freshwater/marine input. With regards to the outliers within this group, although the carbon and nitrogen values exhibited by all four of these outliers are not uncommon for Romano-British populations (Richards *et al.* 1998; Müldner and Richards 2007; Redfern *et al.* 2010; Müldner *et al.* 2011; Eckardt *et al.* 2015), they are all sufficiently different from the rest of the Roman A1 scheme population, which suggests that they may not originate from the same population.

Anglian burials

Isotopic data was obtained for nine Anglian burials from the A1 scheme. The $\delta^{13}C$ values for this small assemblage ranged between –21.4‰ and –20.9‰ (mean –20.8‰

± 0.4‰, 1σ), while the $\delta^{15}N$ values ranged between 8.9‰ and 11.1‰ (mean 10.2‰ ± 0.6‰, 1σ). The Anglian individuals at this site show very little variability, with carbon and nitrogen ranges of 0.5‰ and 2.2‰ respectively, and all but one individual (Skeleton 13150, Grave **178**) plotting within 2σ of the mean (see Fig. 10.2). Although the A1 Anglian individuals have slightly lower $\delta^{13}C$ values than those seen in other Anglian sites, they remain within 2σ of contemporary site mean values. As these differences are no more than 1‰ it is possible that the lower carbon value seen in the A1 scheme population is a result of the small sample size.

Faunal evidence from archaeological sites suggests that cattle, sheep and pig were the dominant sources of animal protein in Anglian diets. Both archaeozoological and isotopic evidence also suggest that freshwater and marine resources were not a significant contributor to their diets (Mays and Beavan 2012; Privat *et al*. 2012). The low carbon and nitrogen values exhibited by the Anglian A1 individuals are consistent with this type of terrestrial C_3 omnivorous diet. The outlier within the group (Skeleton 13150) had a nitrogen value more than 2σ below the population mean (see Fig. 10.2). As with the A1 Roman outlier with similar isotope values, this low nitrogen value likely indicates a diet with a restricted intake of meat and/or animal-based products relative to the rest of the population.

DIETARY DIFFERENCES

The beginning of the 5th century AD is an important transitional period in Britain's history. It has been suggested that, with the decline of Roman rule there came a great influx of Germanic peoples, bringing about a time of complex interactions between newcomers and local populations, as well as great social, economic and political change (Moreland 2010; Holmes 2016). Cultural transitions such as these have the potential to create changes in food culture, influencing for example, cooking techniques and the diversity of the foods available to the population (Wilkins and Nadeau 2015). Being able to analyse human remains from two consecutive time periods, spanning six hundred years at the A1 scheme sites, allows chronological investigations into how these transitional social and cultural changes are reflected in dietary practices, and the resources used in the local area. Anglian dietary practices, much like in Roman populations, were predominantly terrestrial C_3-based omnivorous diets. However, it is thought that freshwater and marine resources played a significantly smaller role in Anglian cuisine than it did within Roman diets. Roman populations appeared to transport fish and shellfish as a luxury item predominantly for high status individuals, while Anglian populations were most likely only exploiting these food types where local resources were plentiful (e.g. coastal or riverside settlements; Mays and Beavan 2012; Privat *et al*. 2012). The isotopic data obtained from the Roman and Anglian populations from the A1 scheme suggests that both populations were consuming similar diets consistent with expected dietary patterns for their period. However, the Anglian population did exhibit considerably less variability than the Roman population, which although based on a small sample population, could tentatively indicate less diversity in available foodstuffs during this period.

Finally, in both Roman and Anglian societies, differentiation based on sex and age was often an important factor that contributed to the determination of people's roles within their community (Härke 1997; Gowland 2006). As some foods likely held more value than others, it is also reasonable to assume that different types of foods may have been differentially distributed between these different social groups (Richards *et al*. 1998; Schutkowski 2008). This has shown to hold true in a number of Roman and Anglian populations within Britain where differences in dietary isotope data correlated with differences in age and sex (Privat *et al*. 2002; Redfern *et al*. 2017). However, despite the potential for such distinctions to be made, no age or sex related differences in diet were observed in the Roman or Anglian populations from the A1 scheme (see Fig. 10.3). This may in part be due to the fragmentary nature of the human remains, limiting the number of individuals that could be analysed in this way.

GENETIC ANALYSIS: POTENTIAL AND FUTURE RESEARCH

Recent excavations at *Cataractonium* during the course of the A1 scheme revealed a group burial consisting of two adult individuals and three children (see Chapter 4). The unusual nature of this burial raises questions pertaining to the relationships, if any, that these individuals shared with one another. To explore any connections between these individuals, genetic analysis of ancient DNA (aDNA) from bone samples is to be carried out at the Reich Laboratory, Harvard Medical School, Boston. If DNA extraction and amplification prove successful, the mitochondrial DNA (mtDNA) and Y chromosomal data obtained would provide could potentially allow sex determination of each individual and assessment of any kinship patterns within the group. The results of this analysis will be presented in a future publication.

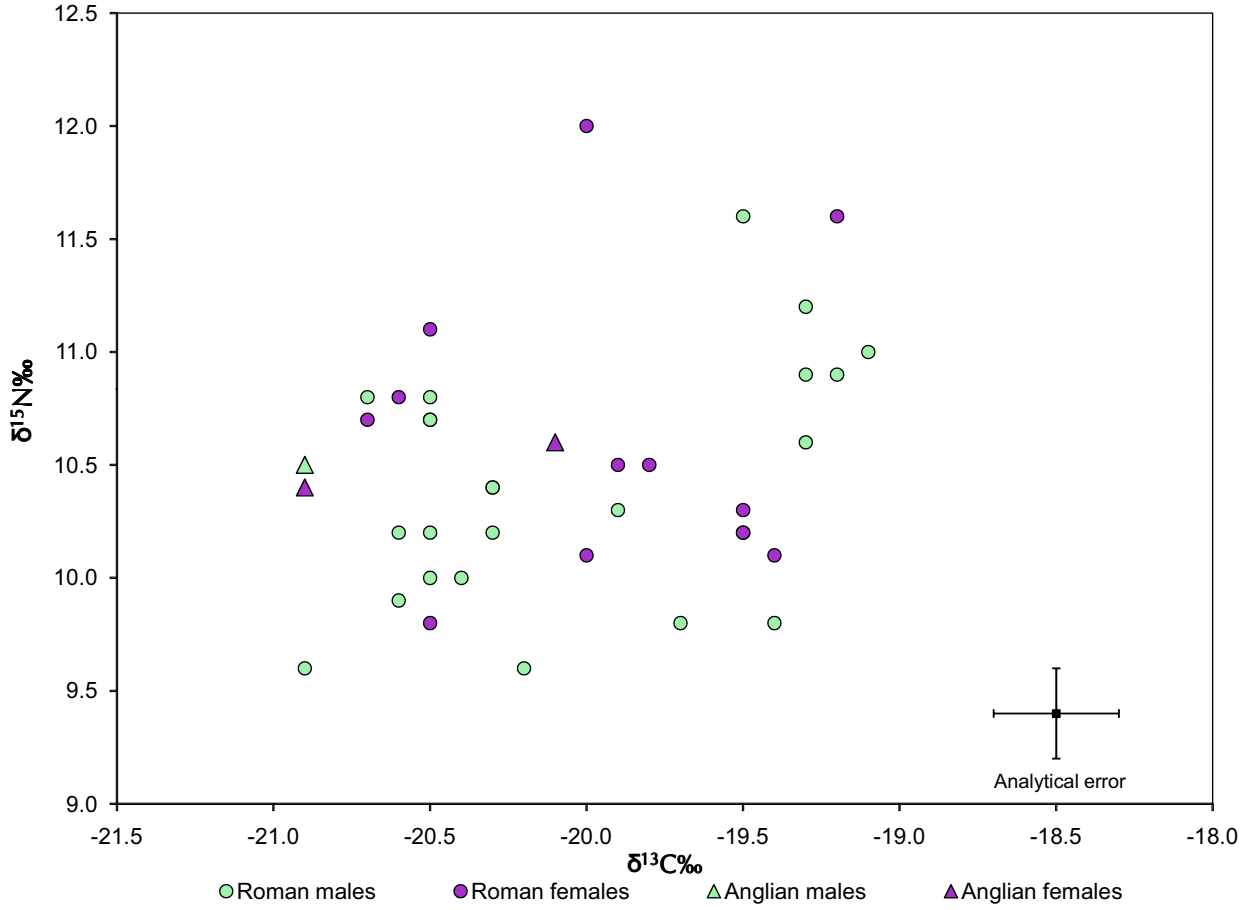


Figure 10.3: plot showing δ13C and δ15N values from the Roman and Anglian individuals. The individuals are grouped by sex.

RADIOCARBON DATING AND BAYESIAN MODELLING OF BAINESSE CEMETERY

Derek Hamilton (SUERC)

A total of 108 radiocarbon dates are available from 83 inhumed and 19 cremated individuals from Bainesse Cemetery (Field 163) (Table 10.1). All the samples were single-entities (Ashmore 1999). The samples from inhumations were primarily from bone, while three results are on collagen extracted from teeth. Dates from cremation deposits are from fully calcined bone. All the samples were processed following methods outlined in Dunbar *et al.* (2016) and were graphitised and measured following Naysmith *et al.* (2010). SUERC maintains rigorous internal quality assurance procedures, and participation in international inter-comparisons (Scott 2003) indicates no laboratory offsets, thereby validating the measurement precision quoted for the radiocarbon ages.

Conventional radiocarbon ages (Stuiver and Polach 1977) are presented in Table 10.1, where they are quoted in accordance with the Trondheim convention (Stuiver and Kra 1986). Calibrated date ranges were calculated using the calibration curves of Reimer *et al.* (2013) and OxCal v4.3 (Bronk Ramsey 1995; 1998; 2001; 2009a). The italicised dates presented in the text below are posterior density estimates derived from mathematical modelling of archaeological problems and have been rounded outward to five years. These dates can change with the addition of new data or when the modelling choices are varied.

As part of the dating procedure, the purified bone collagen routinely undergoes carbon and nitrogen stable isotope analysis to examine both the quality of the bone collagen being dated and to determine whether an individual may have consumed protein from marine animals, which would offset the radiocarbon age and require a form of correction. All but one of the C:N ratios on the samples fall within the range DeNiro (1985) deemed acceptable for bone collagen (2.9–3.6), suggesting that bone preservation was sufficiently good to have confidence in the accuracy of the radiocarbon determinations (Table 10.1; Masters 1987; Tuross *et al.* 1988). The one sample that fell outside this range (Grave **160**; SUERC-76683 (GU45982)) has a value of 3.8. Samples that display C:N ratios outside the range 2.9–3.6 are re-assessed on an individual basis, and other factors are taken into consideration before it is either passed or failed. Ambrose (1990) states that well-preserved bone collagen should have a %C greater than 13% and a %N greater than 4.8%. If their %C and %N are below 4.5% and 0.5%, respectively, then samples should be rejected as diagenetically altered. During isotopic analysis,

SUERC-76683 (GU45982) was found to have a %C value of 17.6% and a %N value of 5.3%, and was therefore deemed acceptable for radiocarbon dating.

RESERVOIRS AND AGE OFFSETS

While a radiocarbon measurement is an accurate reflection of the amount of radiocarbon in a sample, there are instances where the actual amount can be affected by carbon from non-terrestrial reservoirs or suffer offsets related to the incorporation of 'old' carbon into the sample (i.e. 'old' wood effect). If the potential for a reservoir effect or age offset is identified through the associated stable isotope measurements, there are methods and tools that allow for corrections to be made to affected radiocarbon ages or else modifications to be made to the calibrated or modelled dates when undertaking Bayesian analysis.

Dietary reservoirs

When radiocarbon dating humans and terrestrial plants and animals, a primary assumption of the dating process is that the concentration of radiocarbon in these living organisms has remained in equilibrium with the atmosphere while they were alive. While the ratios of ^{14}C:^{13}C:^{12}C are in equilibrium for organisms that derive their carbon solely from the biosphere, the atmospheric concentrations are not in equilibrium with the oceans, and so organisms that derive any or all of their carbon from the sea will appear up to several hundred years too old when radiocarbon dated. Therefore, when humans and other terrestrial animals derive a portion of their protein from marine resources, it becomes necessary to 'correct' the radiocarbon age for this marine reservoir effect (MRE).

A plot of the $\delta^{13}C$ versus $\delta^{15}N$ values for the Bainesse Cemetery inhumations (Fig. 10.4) show the trend toward the incorporation of some degree of marine protein in the diet. While a shift toward heavier (i.e. less negative) $\delta^{13}C$ values can be indicative of the incorporation of C_4 plants in the diet, data from modern millet suggest $\delta^{15}N$ values of 3–4‰ can be expected (McGovern *et al*. 2004), which would result in lighter observed $\delta^{15}N$ values in the human population at Bainesse. Although it is possible that some of the dietary isotopic signal observed is derived from the consumption of C_4 plants, such as millet, the pattern observed strongly suggests that many of the individuals were consuming marine protein, with around a quarter of the population perhaps receiving 10–20% of their dietary protein from marine foods, while the remainder of the individuals display very little to no isotopic evidence for marine protein consumption. Given the archaeological evidence recovered at Catterick and other nearby sites, the likely marine resources being exploited were shellfish and anadromous fish (e.g. salmon), as suggested by the discussion of the isotope data (see above).

In order to determine the 'percent marine diet' for the Bainesse inhumations, the linear interpolation methodology of Arneborg *et al*. (1999) was employed between $\delta^{13}C$ end members. The purely marine end member $\delta^{13}C$ value of −12.5‰ from Arneborg *et al*. (1999) was used due to the absence of a local alternative. This value falls within the realm of expectation based on dietary baselines developed within the UK. A purely terrestrial end member of −20.6‰ was derived from data for Roman period herbivores from Bainesse, which is calculated using the mean −21.6‰ of Chenery *et al*. (2011), and offsetting this by +1‰ to account for the trophic shift between these animals and the humans that consumed them (Table 10.1). In practice, the percent marine value obtained from this linear interpolation methodology is given a standard error of ±10% (Cook *et al*. 2015) and is used for the modelled calibration that mixes the international terrestrial and marine radiocarbon calibration curves of Reimer *et al*. (2013). Since the offset between these two curves is both spatially and temporally dependent, a further local correction was applied (ΔR=−47 ±52 years), which is derived from research into the marine reservoir of samples along the Scottish coast from between 3500 cal BC and cal AD1450 (Russell *et al*. 2015).

Within OxCal, the calculated %Marine value is used with the Mix_Curves parameter to develop a modelled calibration curve that is individualised for each sample result. An unfortunate side-effect of marine reservoir correction is that the modelled dates will decrease in precision with the 'mixing' of the two calibration curves and the increased errors that produces. However, Bayesian modelling has been shown to accurately account for these negative effects and produce accurate chronological frameworks in even the most extreme cases (Hamilton and Sayle 2017).

Dating of cremated bone

The methodology for pre-treating calcined bone for radiocarbon dating was first published by Lanting *et al*. (2001) and the method has since become widely used across Europe in archaeological periods where cremation is the dominant burial practice. An inter-laboratory study by Naysmith *et al*. (2007) showed good reproducibility on radiocarbon dates between six different labs, thus demonstrating the reliability of the technical method. Unlike the radiocarbon age produced from extracted bone collagen (i.e. from an inhumation), which dates the death of the individual, the processes of cremation are such that the radiocarbon measurement on this material directly dates the cremation event. A

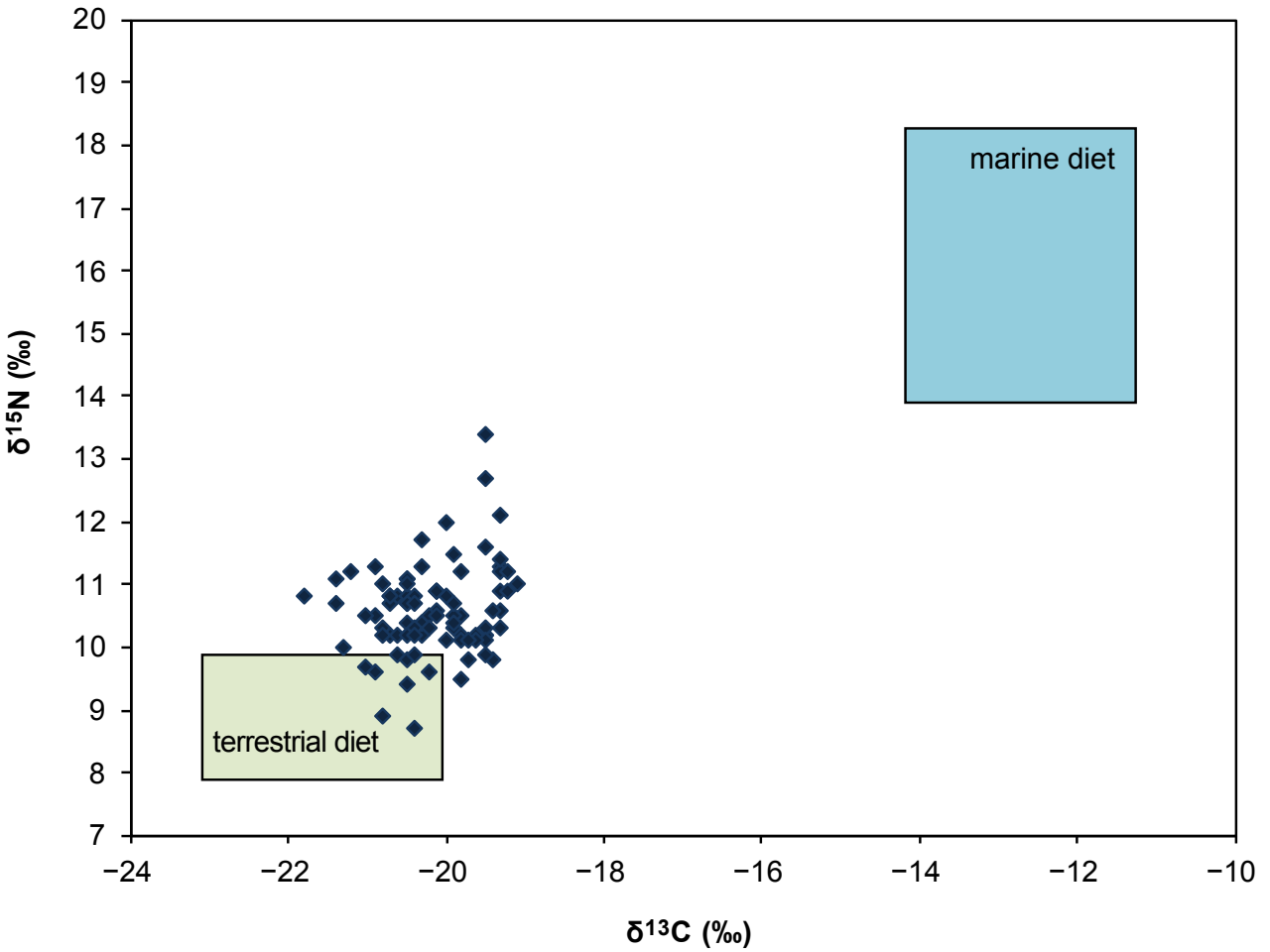


Figure 10.4: plot of the stable isotope results for those human bone samples where there is both a δ13C and δ15N measurement available. The boxes for the expected values of fully terrestrial versus fully marine diet values are based on the data of Mays (1998, fig 9).

potential problem for interpretation is the possibility for carbon exchange between the structural carbonate (bioapatite)—the datable fraction of the cremated bone—and the carbon (CO and CO_2) in the pyre 'atmosphere' that is derived from the fuel source. This possibility for exchange has been demonstrated using both controlled laboratory cremation (Huls *et al*. 2010) and small real-world experiments on joints of animal meat (Snoeck *et al*. 2014).

While the processes are not fully understood, for a substantial offset to occur the pyre fuel would need to contain 'old' carbon (i.e. coal, old growth wood, or even peat). Often, when dating cremation cemeteries, a paired sample approach is taken to a subset of cremation burials with a sample of calcined bone and a sample of short-lived charcoal submitted from the same burial for radiocarbon dating. The purpose is to demonstrate the reliability of the bone measurements for accurately dating the burials (De Mulder *et al*. 2007; Olsen *et al*. 2008). For Bainesse, the radiocarbon dates are all from calcined bone. Here, the methodology used for interpreting this data follows the approach presented by Fitzpatrick *et al*. (2018), whereby the calcined bone was treated like a sample of charcoal with an unknown in-built age. In OxCal, the Charcoal Outlier model (Bronk Ramsey 2009b) was used to account for any transferred age offset between the wood used in the cremation pyre and the subsequently calcined bone.

METHODOLOGICAL APPROACH

A Bayesian approach has been applied to the interpretation of the Bainesse Cemetery chronology (Buck *et al*. 1996). Although simple calibrated dates are accurate estimates of the radiocarbon age of samples, this is not, usually, what archaeologists really wish to know. It is the dates of the archaeological events represented by those samples that are of interest. At Bainesse, for example, the dates for the start and end of the use of the cemetery in general are of interest, but additionally an understanding of the chronological development of the cemetery, the timing of specific identified burial rites, and the date of specific associated material culture. The chronology of this activity can be estimated not only by using the absolute dating derived from the radiocarbon measurements, but also by using the stratigraphic relationships between

samples and the relative dating information provided by the archaeological phasing.

Methodology is now available which allows the combination of these different types of information explicitly, to produce realistic estimates of the dates of archaeological interest. It should be emphasised that the posterior density estimates produced by this modelling are not absolute. They are interpretative estimates, which can and will change as further data become available and as other researchers choose to model the existing data from different perspectives. The technique used is a form of Markov Chain Monte Carlo sampling and has been applied using the program OxCal v4.3 (http://c14.arch.ox.ac.uk/). Details of the algorithms employed by this program are available in Bronk Ramsey (1995; 1998; 2001; 2009a) or from the online manual. The algorithm used in the models can be derived from the OxCal keywords and bracket structure shown in Figures 10.5 and 10.6.

Samples and the model

While many of the dated graves did not have any discernible stratigraphic relationship with other graves from the cemetery, the following relationships between dated skeletons did exist and were included in the chronological model.

Sequence 1: Grave **6** (Skeleton 13342; SUERC-67733 and SUERC-76347) was cut by Grave **10** (Skeleton 13265; SUERC-73006). The two measurements on Skeleton 13342 are statistically consistent (T'=0.2; ν=1; $T'(5\%)$=3.8) and so the two results could be the same actual age. In the primary model, the measurements have been combined prior to calibration to form weighted mean Grave **6** (Skeleton 13342; 1916 ±23 BP).

Sequence 2: Grave **16** (Skeleton 13192; SUERC-67724) was cut by Grave **15** (Skeleton 13168; SUERC-67722).

Sequence 3: Grave **17** (Skeleton 13260; SUERC-67725) is cut by Grave **18** (Skeleton 13175; SUERC-72986).

Sequence 5: Grave **28** (Skeleton 13213; SUERC-72979) is cut by Grave **27** (Skeleton 13216; SUERC-72975).

Sequence 9: Grave **44** (SK12771; SUERC-72958) is cut by Grave **41** (SK12737; SUERC-72969).

Sequence 11: Grave **62** (Skeleton 12678; SUERC-74411) is cut by Grave **61** (Skeleton 12655; SUERC-72976).

Sequence 12: Grave **77** (Skeleton 13027; SUERC-67707) is cut by Grave **78** (Skeleton 12573; SUERC-67694).

Sequence 16: Grave **86** (Skeleton 12748; SUERC-67703) is cut by Grave **87** (Skeleton 12731; SUERC-67702).

Sequence 20: Grave **130** (Skeleton 12987; SUERC-77044) is cut by Grave **125** (Skeleton 12595; SUERC-72980). The two cannot be directly linked to Grave **123** (Skeleton 12871; SUERC-67705), but Graves **123** and **125** are both cut by Grave **124** (Skeleton 12561; SUERC-67693).

Sequence 21: Although four burials from within this sequence were dated, the only direct stratigraphic link that can be made is that Grave **119** (Skeleton 12665; SUERC-67697) is cut by Grave **120** (Skeleton 12622; SUERC-67695).

Sequence 22: Grave **142** (Skeleton 12880; SUERC-72967) is cut by Grave **140** (Skeleton 12996; SUERC-67706), which is cut by Grave **144** (Skeleton 12860; SUERC-67704). Grave **144** is cut by Grave **143** (Skeleton 12852; SUERC-72960 and SUERC-75049). The two results from this inhumation are statistically significantly different (T'=11.3; ν=1; $T'(5\%)$=3.8). Given the Grave **143** overlies three other graves, of which two have radiocarbon dates clearly later than SUERC-72960, this date has been excluded from the modelling.

Sequence 24: Grave **158** (Skeleton 13170; SUERC-67723) is cut by Grave **156** (Skeleton 12606; SUERC-72964). Grave **156** is cut by Grave **154** (Skeleton 12580; SUERC-74410), which is cut by Grave **153** (Skeleton 13201; SUERC-72968).

Sequence 28: Grave **186** (Skeleton 12652; SUERC-72988) is cut by Grave **185** (Skeleton 12618; SUERC-73004) and Grave **187** (Skeleton 12557; SUERC-67692).

Sequence 30: A series of burials in this sequence predate ring ditch **12500**. These include Grave **201** (Skeleton 12474; SUERC-72984) and Grave **229** (229a: Skeleton 13060; SUERC-76682; and 229b: Skelton 13079; SUERC-73000), plus a sequence of burials beginning with Grave **199** (Skeleton 13199; SUERC-75897), which is cut by Grave **198** (Skeleton 13152; SUERC-67717) and capped by Grave **197a** (Skeleton 13146; SUERC-67716). Post-dating ring ditch **12500** are two dated cremation burials, Grave **262** (cremation deposit 12322; SUERC-75043) and Grave **263** (cremation deposit 12343; SUERC-75039).

Sequence 34: Grave **202** (Skeleton 12698; SUERC-73007) is cut by Grave **259** (cremation deposit 12685; SUERC-73399), which is cut by Grave **260** (cremation deposit 12350; SUERC-73398).

Sequence 35: Grave **208** (Skeleton 13111; SUERC-67714) is cut by Grave **209** (Skeleton 13080; SUERC-67712).

Sequence 36: Grave **222** (Skeleton 13344; SUERC-72997) is cut by Grave **261** (cremation deposit 12356; SUERC-73394).

Sequence 38: Grave **219** (Skeleton 13194; SUERC-75896) is cut by Grave **217** (Skeleton 430; SUERC-20369 and

SUERC-39626). The two measurements on Skeleton 13194 are statistically consistent (T′=2.0; ν=1; T′(5%)=3.8) and so the two results could be the same actual age. The measurements have been combined in the primary model prior to calibration to form weighted mean Grave **217** (Skeleton 430; 1550 ±25 BP).

Sequence 39: Grave **238** (Skeleton 13132; SUERC-72966) and Grave **239** (Skeleton 13135; SUERC-67715) are both cut by Grave **237** (237a: Skeleton 13076; SUERC-67711; and 237b: Skeleton 13104; SUERC-67713).

There are two sequences where burials directly cut an earlier ditch or gully, and the stratigraphic relationship allows the respective burial to provide a *terminus ante quem* for the digging of the ditch or gully.

Sequence 40: Gully **12352** is cut by Grave **274** (cremation deposit 13125; SUERC-73521 and SUERC-75042). The two results from this cremation burial are statistically significantly different (T′=16.1; ν=1; T′(5%)=3.8). SUERC-73521 calibrates to the later prehistoric or early Roman period (45 cal BC–cal AD85; 95% probability) and has the potential to be strongly affected by the transference of old carbon to the calcined bone during the cremation process. This measurement has been excluded from the model in favour of the repeat measurement SUERC-75042.

Sequence 41: The enclosure ditches in Sequence 41 are cut by Grave **244** (Skeleton 12310; SUERC-67691).

There are multiple radiocarbon measurements of a further three burials:

The two radiocarbon measurements (SUERC-67731 and SUERC-76346) on Grave **7**, Skeleton 13328, are statistically consistent (T′=1.0; ν=1; T′(5%)=3.8), and so the two results could be the same actual age. In the primary model, the measurements have been combined prior to calibration to form weighted mean Grave **7** (Skeleton 13328; 1818 ±22 BP).

The two radiocarbon measurements (SUERC-73005 and SUERC-75045) on Grave **175**, Skeleton 13161, are statistically consistent (T′=0.7; ν=1; T′(5%)=3.8), and so the two results could be the same actual age.

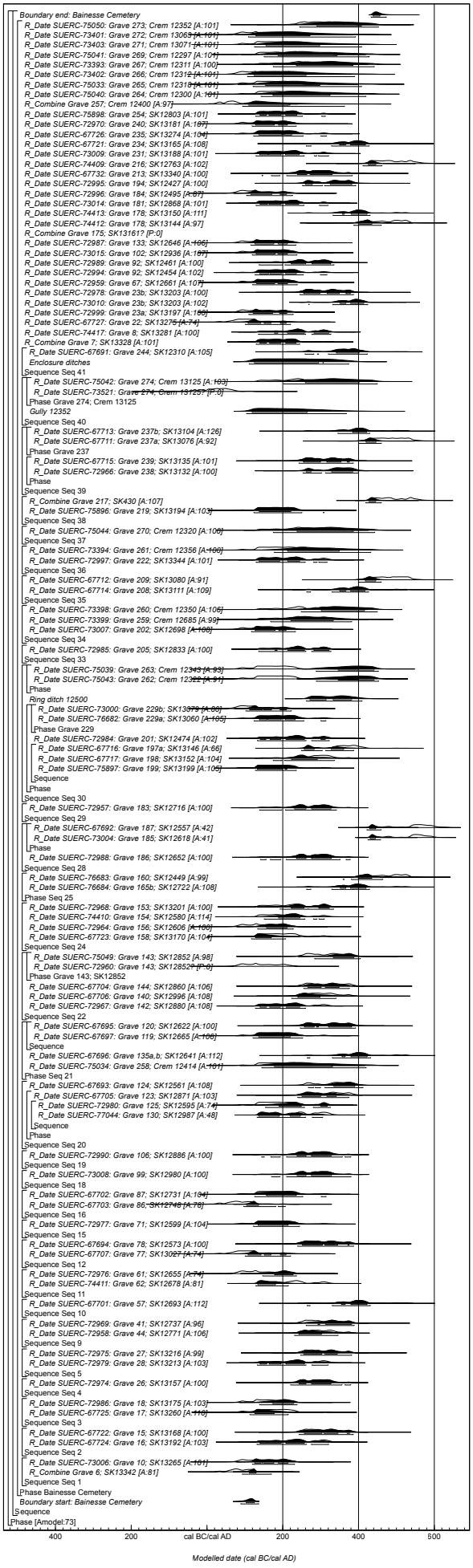


Figure 10.5 (right): primary chronological model for the radiocarbon dates from Bainesse Cemetery. Each distribution represents the relative probability that an event occurred at some particular time. For each of the radiocarbon measurements two distributions have been plotted, one in outline, which is the result of simple radiocarbon calibration, and a solid one, which is based on the chronological model use. The other distributions correspond to aspects if the model. For example, 'start: Bainesse cemetery' is the estimated date that burial activity began, based on the radiocarbon dating results. The large square 'brackets' along with the OxCal keywords define the overall model exactly.

The measurements have been combined in the primary model prior to calibration to form weighted mean Grave **175** (Skeleton 13161; 1050 ±22 BP).

The two radiocarbon measurements (SUERC-73400 and -75035) on Grave **257**, cremation deposit 12400, are statistically consistent (T′=0.0; ν=1; T′(5%)=3.8) and so the two results could be the same actual age. The measurements have been combined in the primary model prior to calibration to form weighted mean Grave **257** (cremation deposit 12400; 1937 ±24 BP).

RESULTS

The primary model is based on the stratigraphic information between individual graves that is provided above. All accepted paired measurements have been combined prior to calibration using the R_Combine function in OxCal, which follows the method detailed in Ward and Wilson (1978). This model has good agreement between the radiocarbon dates and the stratigraphic relationships (Amodel=73).

The primary model estimates burial activity in Bainesse Cemetery began in *cal AD80–135* (*95% probability*; Fig. 10.5, *start: Bainesse cemetery*), and probably in *cal AD100–125* (*68% probability*). The burial activity ended in *cal AD435–480* (*95% probability*; Fig. 10.5, *end: Bainesse Cemetery*), and probably in *cal AD440–460* (*68% probability*). The overall span of burial activity occurred over a period of *305–375 years* (*95% probability*; Fig. 10.7, *span: Bainesse Cemetery*), and probably for *315–355 years* (*68% probability*).

Sensitivity analysis

A sensitivity analysis was created to investigate how the chronology changed when accounting for offsets to the radiocarbon ages that occur when individuals derived some or all of their dietary protein from marine resources. The overall structure of the primary model was not changed. However, a slight alteration was made with regard to the modelling of Graves **6** and **7**. In the primary model, the paired measurements are combined prior to calibration using the R_Combine function. Since the samples from these two burials had $\delta^{13}C$ values that were indicative of having consumed marine resources, each measurement was calibrated using the Mix_Curves parameter in OxCal prior to combining using the Combine parameter.

The sensitivity analysis, hereafter 'Marine corrected model', has good agreement between the radiocarbon dates and prior information (Amodel=124). It estimates

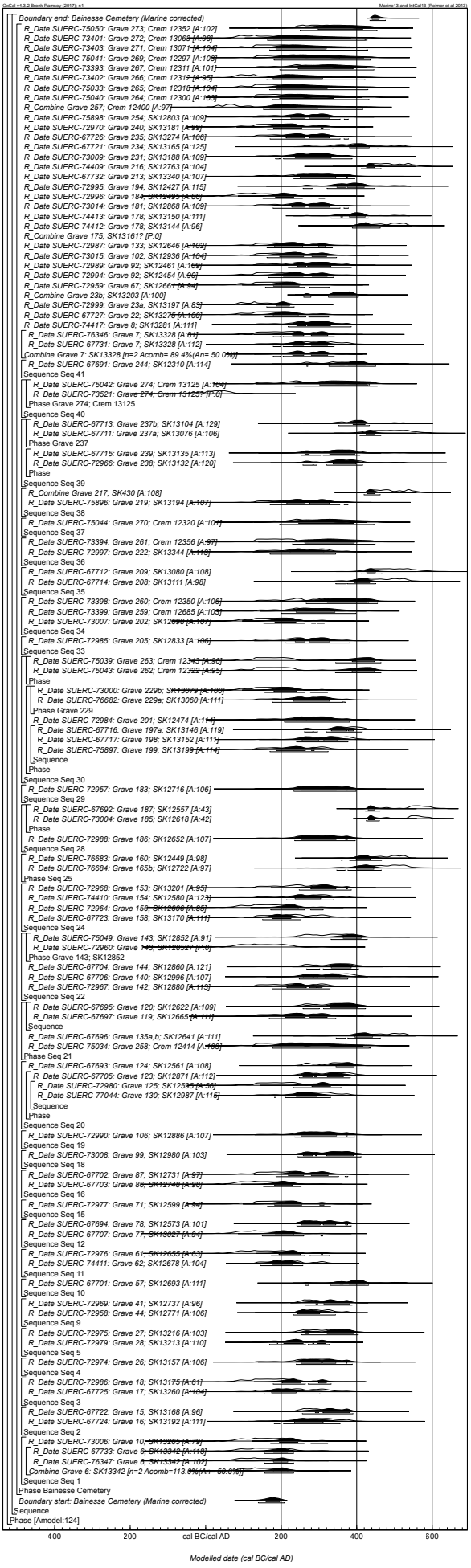


Figure 10.6 (right): sensitivity analysis (Marine corrected model) for Bainesse Cemetery.

that the start of burial in Bainesse Cemetery occurred in *cal AD140–210* (*95% probability*; Fig. 10.6, *start: Bainesse Cemetery (Marine corrected)*), and probably in *cal AD160–200* (*68% probability*). The burial activity ceased in *cal AD435–480* (*95% probability*; Fig. 10.6, *end: Bainesse Cemetery (Marine corrected)*), and probably in *cal AD440–465* (*68% probability*). The cemetery was used for *235–325 years* (*95% probability*; Fig. 10.7, *span: Bainesse Cemetery (Marine corrected)*), and probably for *250–300 years* (*68% probability*).

A comparison of the start and end dates of burial activity from the two chronological models (Fig. 10.8) demonstrates that the start of activity is the parameter most sensitive to the inclusion of the marine reservoir correction. The two estimated start dates differ by as many as 105 years (95% probability). The Marine corrected model more accurately reflects the carbon reservoirs within the dated samples, and as such presents a more accurate and robust chronological framework for further analyses of the cemetery population. Therefore, the Marine corrected model is the preferred chronological model and the modelled results for each individual are presented in Table 10.1.

Further analyses

While the radiocarbon dates from the inhumations and cremation burials at Bainesse Cemetery can be used to estimate the start, end, and duration of the associated burial activity, it is also possible to delve deeper into the data and explore internal chronologies for such things as variation in burial practice and the dates for types of material culture. This can be done through the process of cross-referencing the posterior probability for each burial and grouping them by query type. Within these groups, OxCal is then used to calculate the earliest and latest probability, which can be argued to be equal to the start and end of the practice, etc under question. A summary of these probabilities is provided in Figure 10.9. Furthermore, these first and last probabilities can be compared to one another to derive the probability that one event occurred before another.

Cremation burials

There are a total of 17 dated cremation burials from the cemetery. Looking at the group, as a whole, cremation burial at Bainesse is estimated to begin in *cal AD145–240* (*95% probability*; Fig. 10.9, *first: cremation*), and probably *cal AD165–215* (*68% probability*). Cremation activity ended in *cal AD400–475* (*95% probability*; Fig. 10.9, *last: cremation*), and probably *cal AD425–455* (*68% probability*).

Within this group of 17 cremation burials there are five that were deposited in urns (Grave **260**, cremation deposit 12350; Grave **261**, cremation deposit 12356; Grave **269**, cremation deposit 12297; Grave **271**, cremation deposit 13071; and Grave **273**, cremation deposit 12352). The data estimate this specific form of cremation deposition began in *cal AD165–325* (*95% probability*; Fig. 10.9, *first: urned cremations*), and probably *cal AD190–275* (*68% probability*). The urned cremation burials ended in *calAD 335–465* (*95% probability*; Fig. 10.9, *last: urned cremations*), and probably in *calAD 380–450*

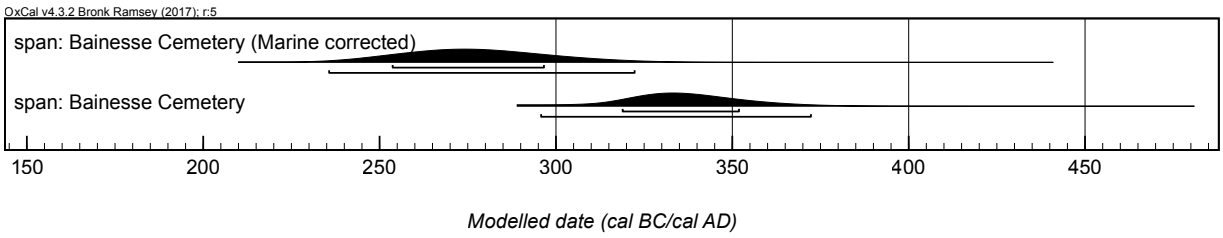


Figure 10.7: span of burial activity for both the Primary and Marine corrected model.

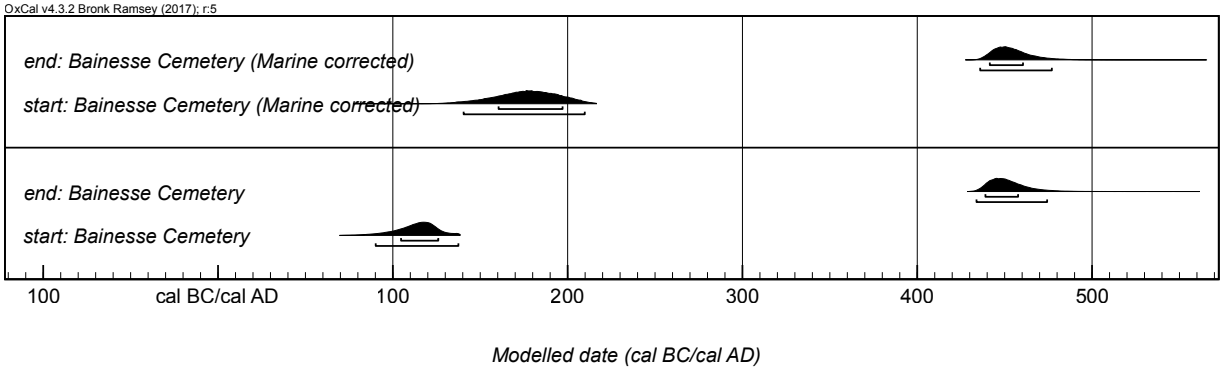


Figure 10.8: comparison of the start and end dates for Bainesse Cemetery as derived from the Primary and Marine corrected models.

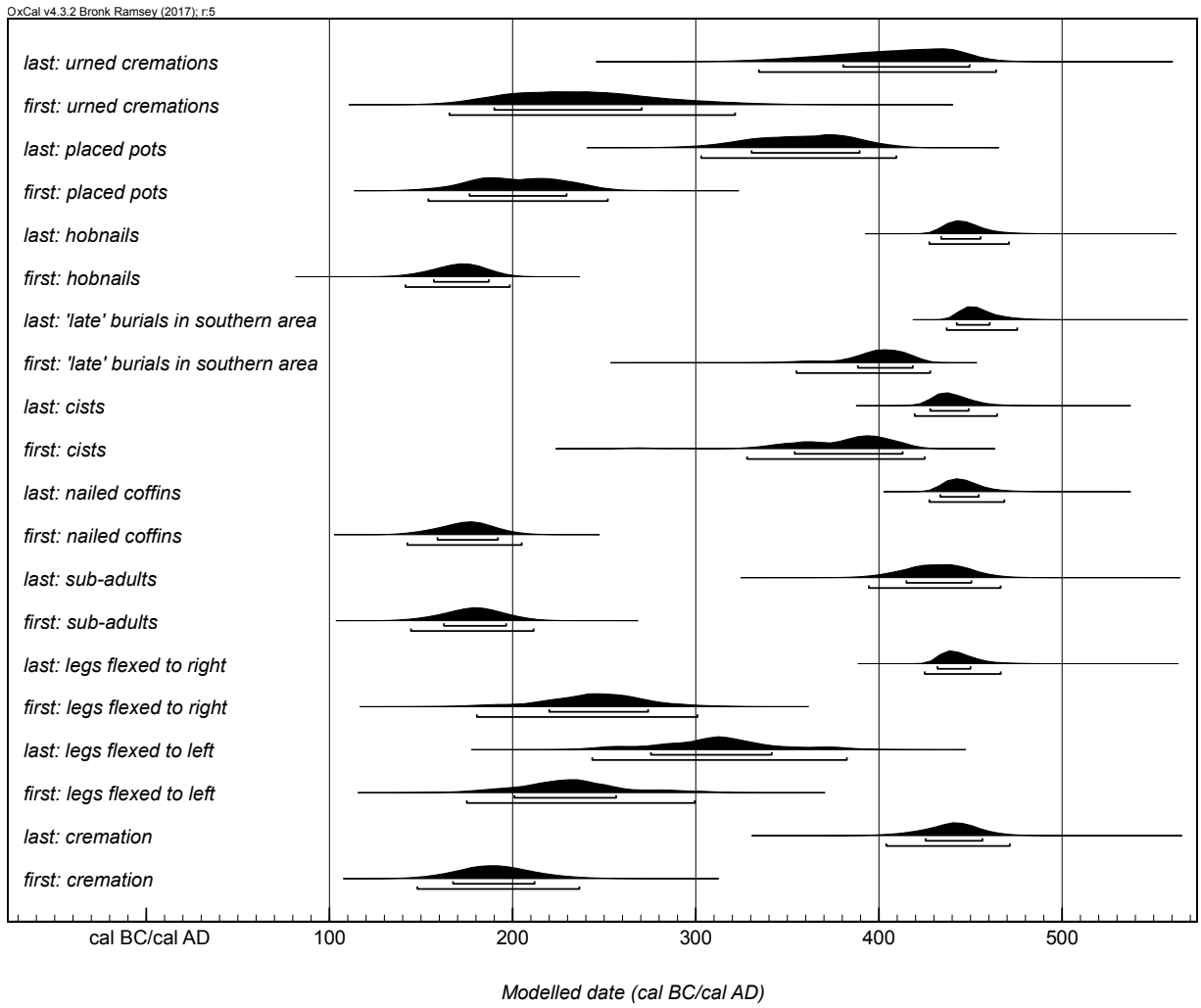


Figure 10.9: 'First' and 'Last' probabilities for practices or special interest. These probabilities are derived from the posterior density estimates produced in the Marine corrected model shown in Figure 10.6 and discussed in the text.

(*68% probability*). As a result, the practice of placing cremated remains within an urn does not appear to be chronologically early or late in the use of the cemetery.

Legs flexed to the left versus to the right

Three inhumations had the legs of the buried flexed to the left, while ten had the legs flexed to the right (see Chapter 6). The earliest date for left flexed legs is in *cal AD175–300* (*95% probability*; Fig. 10.9, *first: legs flexed to left*), and probably *cal AD200–260* (*68% probability*). This practice appears to have ended in *cal AD240–385* (*95% probability*; Fig. 10.9, *last: legs flexed to left*), and probably in *cal AD275–345* (*68% probability*). The dating places the practice of having the legs flexed to left in the earlier half of cemetery use. The practice of placing an individual in the grave with the legs flexed to the right began in *cal AD180–305* (*95% probability*; Fig. 10.9, *first: legs flexed to right*), and probably in *cal AD220–275* (*68% probability*). This form of burial ended in *cal AD425–470* (*95% probability*; Fig. 10.9, *last: legs flexed to right*), and probably in *cal AD430–450 (68% probability*).

Although the practice of flexing the legs to the right appears to cover much of the cemetery use, continuing until the end of its use, there is a *64% probability* that *first: legs flexed to right* post-dates *first: legs flexed to left*. Coupled with the data that suggests flexing the legs to left went out of use half-way during the use of Bainesse, it appears there was a shift from one form of practice to the other in the Roman period.

Cist burials and placing pots in graves

The chronology for the practices of placing pots in the graves and using cists for the burials are both of interest. The practice of placing pots in graves appears to cover much of the use of the cemetery. It is estimated to begin in *cal AD150–255* (*95% probability*; Fig. 10.9, *first: placed pots*), and probably in *cal AD175–230* (*68% probability*). It ends in *cal AD300–410* (*95% probability*; Fig. 10.9, *last: placed pots*), and probably in *cal AD330–390* (*68% probability*).

This contrasts rather well with the practice of cist burial which begins relatively late in the use-life of the cemetery.

Cist use is estimated to begin in *cal AD325–430* (*95% probability*; Fig. 10.9, *first: cists*), and probably in *cal AD350–415* (*68% probability*). Cist burials last until near the end of the cemetery, ending in *cal AD420–465* (*95% probability*; Fig. 10.9, *last: cists*), and probably *cal AD425–450* (*68% probability*).

Other queries

The burial of sub-adults, use of nailed coffins, and presence of hobnails all appear through nearly the entire span of activity in the cemetery, and so show very little temporal distinction (Fig. 10.9). However, the southern area of the cemetery had been identified as the location where there was a high number of late burials. This 'late' activity in this area is estimated to have begun in *cal AD355–430* (*95% probability*; Fig. 10.9; *first: 'late' burials in southern area*), and probably in *cal AD386–420* (*68% probability*). Importantly, it ended in *cal AD435–480* (*95% probability*; Fig. 10.9; *last: 'late' burials in southern area*), and probably in *cal AD440–465* (*68% probability*).

When looking at the end of 'late' burial activity in the southern area, compared to all other specifically identified activity, there is a very high probability that these are the latest burials on the site. There is an *80% probability* that the *last: 'late' burial in southern area* was later than the *last: cremation*, with *87% probability* that it was later than the *last: sub-adults* and an *89% probability* it was later than the *last: hobnails burial*. There is a *90% probability* or higher that the *last: 'late' burial in southern area* post-dates all of the other practices of interest.

CONCLUSIONS

The scientific analyses of the individuals excavated as part of the A1 scheme, including one of the largest radiocarbon studies of a Roman cemetery to date, has provided additional insight into the Roman and Anglian populations within the Catterick area, allowing us to draw some broad conclusions about how these people lived their lives and buried their dead.

The results of the stable carbon and nitrogen isotope analysis, involving 120 individuals from across the range of burials excavated on the scheme, has shown that the diet of both the Roman and Anglian populations was relatively consistent with what is seen at other sites of these periods within Britain. The study of the Roman population in particular draws close parallels with Chenery *et al*.'s (2011) isotopic study of the previously excavated skeletal remains from the Catterick area, suggesting the presence of a terrestrial C_3 diet with a reliance on animal protein. This is highly comparable with isotopic studies of other Roman burials within Britain, such as Southwark (Ridgeway *et al*. 2013). In some cases, an argument can be made for the consumption of ^{15}N enriched foods within the A1 scheme population, such as pig, as suggested by Chenery *et al*. (2011), although freshwater/marine resources cannot be ruled out and are considered to be a likely contributor to the diet of at least a small proportion of the population given the evidence for their presence at *Cataractonium*, which has important implications for the study of the radiocarbon data, as discussed below.

While the conformity in diet might suggest a shared identity, the extent to which this was determined by the types of foods available to the Roman population within the Catterick area cannot be assessed until a fuller analysis of the animal and plant remains recovered from the A1 scheme is undertaken. However, the comparability with other sites suggests some level of uniformity across Roman Britain that extended to *Cataractonium* and its hinterland. Yet, even within this apparent conformity, there were individuals who did not ascribe to the norm, as suggested by the individual with limited intake of animal proteins and those who exhibited evidence for possible C_4 or higher marine components within their diets. Whether these differences were due to origin, perceived identity or status in comparison to the rest of the population is difficult to assess, but it must be noted that such differences are not anomalous when compared to other Roman sites.

While the study of the Anglian burials was based on a limited sample size, and thus does not allow for in depth conclusions to be drawn, the evidence supports the prevalence of a generally less diverse terrestrial C_3 diet for this period, as suggested by previous studies. As with the Roman data, it suggests a general conformity in diet comparable to the rest of Britain, with limited evidence for individuals who fall outside of this norm.

The large radiocarbon dataset has also allowed for increased chronological sensitivity in the interpretation of the multiple burials found across the scheme. No more so is this evident than in the case of Bainesse Cemetery, where Bayesian statistical modelling has allowed the chronology of specific activities to be interrogated. It is important to note that where artefactual dating evidence was present to compare with the radiocarbon chronology, there appears to be good concordance, suggesting the chronological model put forward in this chapter is robust.

The model has shown that there is limited chronological distinction in many of the burial practices that occurred within Bainesse Cemetery, suggesting that specific rites

remained present throughout its use, including cremation burials, placement of pots within graves, and the presence of nailed coffins and hobnails within burials. However, other burial practices were more restricted in time, such as the use of cists, which only occurred from the mid-4th century and into the 5th century. Such burials appear to have been distinctive and have been shown to be related to minority burial rites, as discussed in Chapter 3 and further in Chapter 11. In addition, changes in practices related to the positioning of the body within the grave may be present, as suggested by the modelled dates for interment of individuals with legs flexed to the right versus to the left.

Overall, the scientific analyses have provided an additional window that has allowed us to begin to put forward hypotheses about how these individuals lived their lives and identified themselves within their societies. The foundations presented here will contribute to the further discussion of death, burial and identity in relation to the Roman and Anglian populations recovered from the A1 scheme to be presented in the following chapter.

CHAPTER 11
DEATH, BURIAL, IDENTITY AND BEYOND

Greg Speed, Malin Holst, Katie Keefe and Sophie Newman

Identity (noun) "*The fact of being who or what a person or thing is*"

Oxford English Dictionary

INTRODUCTION

The preceding chapters of this volume have presented the results and discussion of all burial evidence recovered during the A1 scheme. The evidence has allowed for an opportunity to reassess our understanding of death, burial and identity in this area over a period of c.3000 years, stretching from the Bronze Age to the early medieval period. The A1 scheme has added 308 burials, comprising 274 inhumations and 34 cremation burials, to the corpus of evidence that is available for this region and contributes data that will be integral to future national and international archaeological research.

As stated in Chapter 1, this volume seeks to address one of the A1 scheme key research themes: death, burial and identity. This comprises a number of scheme-specific research questions that have driven analysis and research throughout the post-excavation period. These questions can be summarised under the following themes:

- Individual identity
- Origins and culture
- Religion and beliefs
- Continuity and change

The prehistoric funerary evidence was represented by four cremation burials and has been discussed in full in Chapter 2. It is noteworthy that, despite evidence for extensive Iron Age activity being present on the scheme (Fell forthcoming) and the fact that Iron Age burials have previously been excavated in the vicinity, no definite Iron Age funerary remains were identified by the excavations.

As the prehistoric evidence for burial has already been addressed, this concluding chapter considers the remaining 304 Roman and post-Roman burials that have been discussed in the preceding chapters. It explores the people they represent, and the material culture and environmental remains recovered from them, in terms of the themes presented above. In addition, it draws on inter-site comparisons, allowing this new evidence to be placed within the wider context of death, burial and identity in Roman and early medieval Britain, and beyond.

The new data from the A1 scheme, combined with the evidence from previous excavations, now makes it possible to compare the range of funerary behaviours not just between individual burial areas but across wider zones of the local Roman landscape. Apart from variation in grave form and the funerary rite employed across the excavated sites, several categories of grave goods and the way that these were used show differing distributions across the larger study area. As a result, they can potentially offer insights into spatial variation within society at *Cataractonium*.

ROMAN BURIAL IN THE NORTH OF ENGLAND

Until recently, limited published Roman funerary evidence has been available for northern England (Petts and Gerrard 2006, 144), especially when compared with that available for the south and east of Roman Britain (e.g. Smith *et al*. 2018b, fig. 6.8 for rural burials). Although no national review of the total evidence from Roman Britain has been attempted since Philpott's (1991) survey, it is clear this imbalance has improved somewhat since the introduction of Planning Policy Guidance 16 (PPG16) in 1990. Most burial evidence for the period, however, still derives from southern England and the Midlands, although the dataset is imbalanced even for these regions, with most of the excavated funerary evidence having been recovered around Roman towns and commonly dating to the later Roman period (Esmonde Cleary 2000, 127; Pearce 2015a, 158–9; Smith *et al*. 2018b, 206–7).

Large excavated groups of burials associated with Roman towns in northern England include Trentholme Drive in York and The Ridings at Malton (Wenham 1968; Wilson 1968, 182). A survey of published Roman urban cemeteries comprising 25 or more individuals that have been excavated in Britain between 1990 and 2013 identified two sites in northern England, namely Botchergate in Carlisle and Driffield Terrace in York (Hunter-Mann 2006; Müldner *et al*. 2011; Zant *et al*. 2011; Pearce 2015a, 158–9), to which can be added the recent excavations at the former Newington Hotel (Savine 2017) and Hungate (Keefe and Holst 2017d; 2018), both also in York.

Excavations within Roman cemeteries in northern England that are associated with military sites include the large cremation cemetery at Brougham fort in Cumbria (Cool 2004), as well as smaller scale investigations at Birdoswald (Wilmott *et al*. 2009; Wilmott 2010), Beckfoot (Collins 2009), Newcastle (Annis 2010), South Shields (Snape 1994), Waterdale, Doncaster (Caffell and Holst 2012c), within the *vicus* at Binchester in County Durham (Petts 2018), and a number of other sites. Indeed, it is only in the case of military *vicus* cemeteries that the north compares well numerically to what is observed for the rest of Roman Britain (Esmonde Cleary 2000, 129–30; Smith *et al*. 2018b, 212).

Smaller Roman settlements and rural sites in northern England have occasionally produced small numbers of burials (Pearce and Gowland 2016, 1), although the larger groups, such as those from Wattle Syke in West Yorkshire and Healam Bridge in North Yorkshire (Martin *et al*. 2013; Ambrey *et al*. 2017), have usually been comprised primarily of neonates, with fewer older children and adults. However, many of these smaller sites remain unpublished and, with some exceptions, including most of the individuals from Wattle Syke and Healam Bridge, the majority of such burials have not been radiocarbon dated.

Given the preponderance of evidence from the south and east of Roman Britain, existing models for Romano-British funerary behaviour largely reflect what may have been regional preferences. However, the complexity and variation apparent in the archaeological record is becoming increasingly recognised as new sites are discovered and brought to publication (Pearce and Gowland 2016, 1; Smith *et al*. 2018b). In this context, the extensive evidence for Roman funerary activity within the Vale of Mowbray that has been recovered both from earlier excavations and as a result of the A1 scheme has considerable potential to increase our understanding of Roman burial practices in the north of Britain and is therefore of national significance.

PREVIOUS EVIDENCE FROM CATTERICK

Compared to the limited Roman funerary evidence from the rest of northern England, there was already a significant body of data for Catterick and its hinterland. In addition, as described in Chapter 1, there is evidence from two Iron Age sites in the study area, namely Stanwick and Scorton Quarry (Speed 2009a; Haselgrove 2016, 439–442), for the prevailing funerary rite in the immediate area between the 1st century BC and early 1st century AD. Inhumations at both sites lay on their sides in a flexed position within purpose-dug grave-pits, which were usually associated with boundary features. The burials were typically unfurnished, although two of the Scorton burials contained iron brooches. At Scotch Corner, the settlement during the mid-1st century was essentially Iron Age in character, although with access to a wide range of Roman commodities and some Roman presence. As noted in Chapter 5, Grave **27673** at Scotch Corner conformed to the Iron Age burial tradition described above and, given its presence within an essentially Iron Age settlement (it lay within an enclosure containing a roundhouse), is most likely to represent a member of the Late Iron Age population, despite the presence of Early Roman potsherds within the grave backfill. Although flexed burials are common on early Roman sites in Yorkshire, these are likely to reflect a continuing tradition amongst the indigenous population rather than representing incoming 'Romans'. It should also be noted that flexed burials are much less common in more 'Romanised' parts of Britain to the south and east (Smith *et al*. 2018b, 230).

Previous investigations in the Catterick area have identified at least 98 Roman burials, others that may be of Roman date, as well as several probable graves (see Table 1.2). This total presumes that the burials excavated at the Yorkshire Water Depot in Brompton (located on Fig. 1.9) were of Roman date, which is by no means certain. The majority of these previously excavated Roman burials were concentrated at *Cataractonium* and Bainesse (Fig. 11.1), in addition to a small number of rural burials.

The Catterick Bypass excavations in 1958–59 (CfA Site 433) examined a transect across the Late Roman walled area of *Cataractonium* but did not investigate extra-mural areas (Wilson and Wacher 2002, 46–122). Despite the large-scale excavations, only three human burials were found, all located close together in the southern part of the area examined (*ibid*., fig. 43). Two infants (less than one year in age) were found buried 1.5m apart in an area external to a large walled enclosure, which was tentatively suggested to represent the boundary of the *temenos* for a temple (*ibid*., 74–6). Both burials, which were dated by stratigraphy to the later 2nd century, may have been contained in coffins, and one was accompanied by five phallic amulets. The third burial consisted of the cremated remains of an adult female contained in a glass bottle (*ibid*., 57). It was found during salvage recording inside the walled enclosure (which it may have pre- or post-dated) and has been dated to the 2nd century; however, this date is uncertain. Although the two infant burials were placed adjacent and external to the enclosure wall, and in one case cutting its foundation trench, the function of the enclosure and the use of the area external to it is uncertain, meaning that it is impossible to give any valid interpretation of the placement of the graves or whether any 'ritual' meaning can be inferred. Skeletal remains representing a fourth individual (a neonate) was

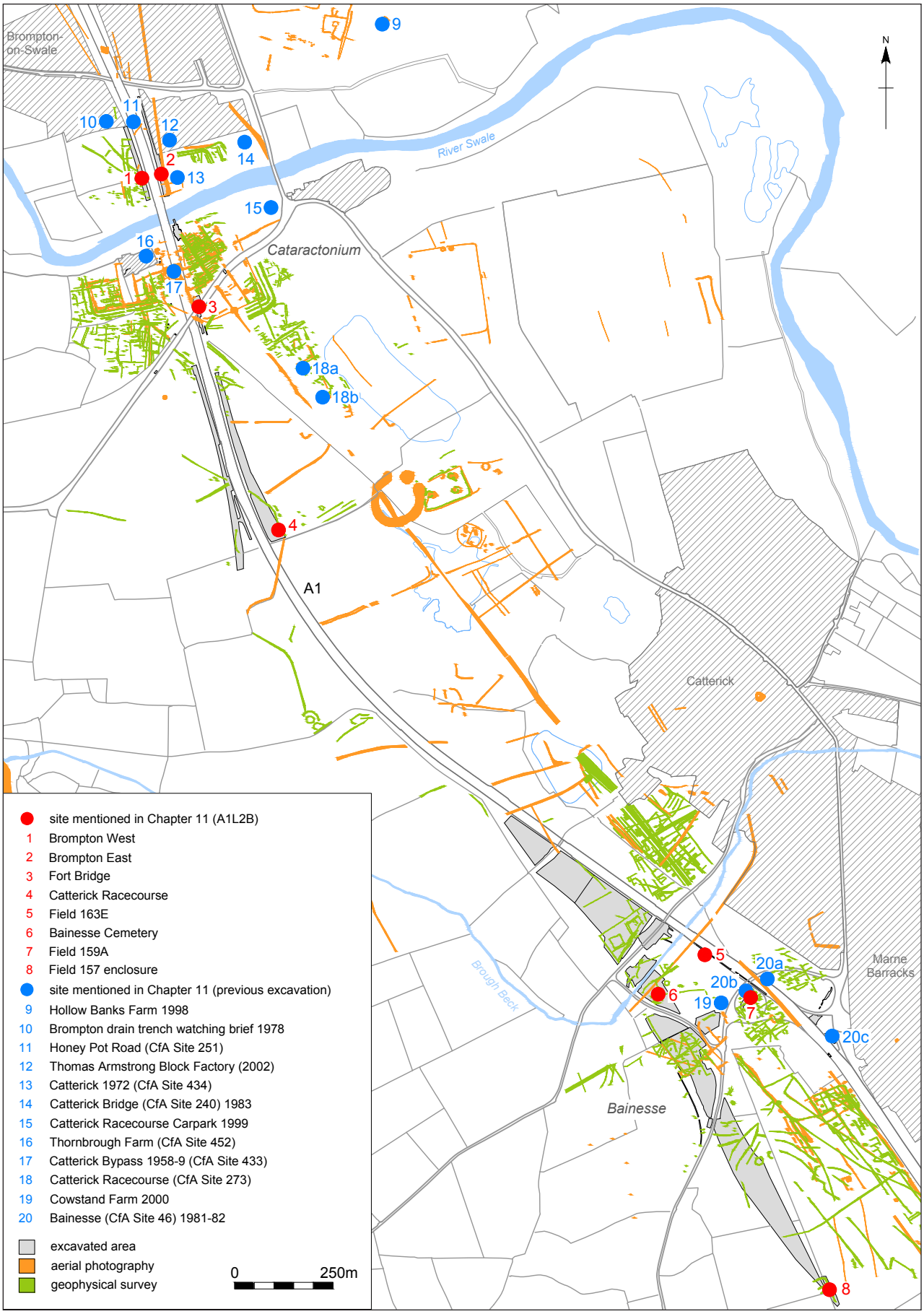


Figure 11.1: previous excavations and A1 sites with Roman burials at Cataractonium and Bainesse.

found in an intra-mural location at Thornborough Farm in the 1990s (CfA Site 452), in a layer dated to the mid- to late 3rd century, although the remains may have been residual (Wilson 2002a, 229).

Most Roman burials have been found in the extra-mural areas of *Cataractonium*. To the south-east, trial trenching in 1984 at Catterick Racecourse (CfA Site 273) recorded an inhumation located amongst enclosure ditches and other features, including a gravel surface and a well, located 200m to the south-east of the Late Roman walled town. An adult, possibly a female, had been interred within a nailed coffin in an extended supine position with its head to the north-west but without any surviving grave goods (Wilson 2002a, 214–15, grave 335). A further 100m to the south-east, four more graves and three possible graves were found that were also associated with enclosure ditches (*ibid*., 214). In three of the certain graves, the age and sex of the individual could not be determined, although the orientation of two could be identified; one was placed with the head to the north-east and the other with the head to the south-west. In the fourth grave, a possible adult male lay with its head to the north-west. One of the graves contained the stain from an unnailed coffin, while another contained evidence for a nailed coffin. A further grave contained fragments from a glass unguent bottle and a coin of Julia Domna (AD196–211). The possible graves were unfurnished. These burials at Catterick Racecourse were interpreted as a cemetery dating to the later 3rd or 4th century, based on the assumption that inhumation as a form of burial only became common in the north of Roman Britain from the mid- to late 3rd century (*ibid*., 215). However, the data available from Bainesse Cemetery has shown such an assumption to be erroneous, based on the evidence presented. Therefore, these burials could date to any time from the 2nd century onwards. In view of the burials recorded at Bainesse Site 46 (see below), as well as the A1 scheme excavations at Bainesse, Brompton West and Scurragh House, the the previously excavated graves at Catterick Racecourse can be reinterpreted as back-plot burials within enclosures located behind the contemporary settlement that fronted Dere Street.

To the east of the Roman town, human remains of probably Roman date have only been recorded in an antiquarian account and noted (but not excavated) during a watching brief in Catterick Racecourse carpark, close to the road known from aerial photographs to run east from *Cataractonium* (Whitaker 1822, 22; Falkingham 2000). These records provide no useful data other than to show that burials took place in this area. To date, a lack of excavation means that no burials have been recorded to the west of the town and forts.

Burials were recorded by previous excavations within the extra-mural settlement on the north bank of the River Swale. On the west side of Dere Street and the A1, three burials were noted in the 1970s, during excavation of a drain trench parallel to the modern road (O'Sullivan 1978; Wilson 2002a, 205–6; Wilson 2002b, fig. 428); however, no details of these are available. Subsequent excavation adjacent to the two northern burials at Honey Pot Road (CfA Site 251) recorded a grave placed next to a north–south ditch that ran parallel to Dere Street and probably represented an enclosure associated with settlement fronting the road. The grave contained two adults, a male and a possible male, lying side by side in an extended position with their heads to the west (Wilson 2002a, 206–7). A single hobnail and a broken finger-ring key found in the grave were not placed with the bodies and are likely to have been residual. Although no dating evidence was recovered from any of these burials, when compared to the larger number of burials found during the A1 excavations a short distance to the south-east at Brompton West, they are considered likely to be later Roman (3rd–4th century) and represent a series of back-plot burials.

To the east of Dere Street, the Catterick 1972 excavation (CfA Site 434) yielded the remains of a juvenile aged 1–1.5 years, which were found in a 2nd-century rampart make-up layer and are therefore possibly residual (Wilson and Wacher 2002, 128). A second inhumation, an adult male, was of probable 4th-century (or later) date (*ibid*., 135). The published account does not include further details of the grave, and potsherds listed from the feature are likely to have been residual. Although this burial was located behind a building interpreted as a possible temple, it lay a similar distance from Dere Street as, and broadly in line with, a string of four burials that were found 40m to the north during the 2002 excavations at the Thomas Armstrong concrete block factory (*ibid*., fig. 67; Speed 2004, 16 and fig. 8). A fifth burial lay between these burials and Dere Street. Three of these burials were aligned from north to south and two from east to west. All of the burials lay in an extended supine position. None contained any remaining evidence for coffins, although the presence of an unnailed coffin was suggested for one burial of a decapitated adolescent aged 14–16. Another grave had stone slabs laid across the base and large cobbles lining the head end. Apart from the adolescent, the graves contained a possible male and a female, both aged over 25, and two older females, including one aged over 50. The graves could be dated to the mid- to late 4th century on the basis of stratigraphy and assemblages of residual finds found within the grave fills.

A larger number of Late Roman burials were found a short distance to the east at Catterick Bridge (CfA Site

240, Wilson 189–204), adjacent to the contemporary riverbank where the Swale previously deviated to the north of its modern course. A total of 29 inhumations, another probable inhumation (not fully excavated) and two cremation burials were suggested to span the late 3rd to early 5th century. The graves were mainly located around the periphery of enclosures of uncertain, but possibly industrial, function and conform best to the 'back-plot burial' classification used in this volume. However, given their number, they may also conceivably represent a small, dispersed cemetery. Where orientation could be determined, the burials in nearly half of the graves (13 of 27; 48%) lay with the head to the north-west, with most others orientated to the south-east or south-west. However, it should be noted that these orientations were generally parallel to the surrounding enclosure boundaries. Several burials were intercutting, while others were arranged in parallel pairs, often oriented in opposing directions. The inhumations, where information was available, comprised: 19 adults, of whom two were female, three possibly female, seven male, four possibly male, and three unsexed; three unsexed adolescents or young adults; one older juvenile; and four younger juveniles. Where age at death could be accurately determined, 10 (71%) of the 14 certain adults died between the ages of 20–30 and only one over the age of 40. The individuals were mainly interred in an extended supine position, although a possible adult female lay crouched on her right-hand side, a possible female adult lay extended on her right side and an adolescent lay semi-flexed on their right-hand side.

Three graves contained nailed coffins, while another six may have. Eight graves contained a partial lining of stone slabs or cobbles; in four cases, this was in association with one of the certain or possible nailed coffins. Eleven of the excavated inhumations (38%) were suggested to contain grave goods. Five graves contained single ceramic vessels, including three Crambeck small jars or beakers, another beaker (no longer extant) and a small jar in a reduced fabric. Another grave contained fragments of a Late Roman cylindrical glass bottle. Objects of personal adornment were found in only three graves. Two, those of a possible adult female and an infant, contained a total of seven copper-alloy, jet or antler armlets, while the third, containing a possible adult male, contained a copper-alloy anklet. Coins (five in total) were found in four graves and ranged in date from the later 3rd century through to a 5th-century issue of Constantine II (AD420–421). Other certain or probable grave goods recorded in these burials included a stone altar, the skeleton of a small bird, and possibly an iron ox goad. Nailed footwear was not present in any of these burials (Thompson 2002, 387–9).

One of the two cremation burials, which dated to the late 3rd or early 4th century (or later), contained nails, sherds from calcite gritted and black-burnished ware (BB1) pots, a copper-alloy armlet and fragments of a second, and a fragment of a crossbow brooch of later 3rd-century type. The second cremation burial contained only burnt bone and nails. Demographic data was not available for either cremated bone assemblage.

More Late Roman inhumations were found in 1998 at Hollow Banks Farm, located 250m to the north-east of the Catterick Bridge site. The graves lay in a small discrete cemetery on the northern bank of the Roman river channel, which at this point ran 200m to the north of the modern course of the Swale. The burials were located 500m north-east of the Late Roman walled town, in an area that had been divided by ditches to form large fields and smaller enclosures during the Late Iron Age and Early Roman period (Speed 2005). The pottery evidence suggested that the ditches were largely infilled by the 2nd century, but at least some of the boundaries remained visible throughout the Roman period, with one used as the focus of an Anglian cemetery during the 6th and early 7th centuries.

The small cemetery at Hollow Banks Farm comprised 14 graves. In addition, a smaller feature contained two bracelets, which may have been enclosed in a box (Speed 2002; Eckardt *et al*. 2015). This either represented an infant burial, although no bone survived, or some sort of votive offering. Alignment could be determined for 12 graves; in five cases, the head lay to the north-west. Two burials where no bone survived may also have shared this alignment. The other burials lay on a variety of alignments. In two cases, pairs of burials had been placed alongside one another. In one of these pairs, the graves had been placed on opposing alignments; however, in the other case, the alignment of one of the graves could not be determined. These 12 burials contained sufficient human remains to record demographic data, indicating that the individuals buried in the cemetery were probably all young adults or young middle adults. They comprised a single young adult female, a probable young adult male, four young middle adult males, three possible young middle adult males, and three young adults or young middle adults whose sex could not be determined, although two were furnished with what were considered to be 'male' grave goods. Three of the graves contained nailed coffins (the box containing the bracelets might represent another), one a partial cobble lining, and one contained both.

Ten of the 15 graves or possible graves at Hollow Banks Farm (67%) contained grave goods, including the uncertain feature containing the two bracelets. The single female wore a bone bracelet and a copper-alloy bangle

had been placed over the right arm. Of the other graves, five contained a total of eight pottery vessels, comprising five Nene Valley colour-coated beakers (one in each of the burials), Nene Valley and Crambeck dishes, and a greyware bowl. One of these graves also contained a glass flask. Items of personal adornment were mostly worn. These comprised crossbow brooches (four graves) and buckles and strapends that formed belt-sets (six graves). One male had a copper-alloy bangle placed on the body, as opposed to being worn. Two of the burials were accompanied by small hoards of 24 and 44 coins, which had probably been deposited in the early AD340s and soon after AD356 respectively. Organic remains preserved in association with the coins included bark (possibly parts of a container), and hazelnuts and legume pods, which presumably represented food offerings. One grave contained two unidentified objects, which Croom (Chapter 8) suggests may have been used as clothing pins, or which possibly had ritual functions. The presence of the coin hoards, together with dating of other grave goods, securely places the use of the small cemetery at Hollow Banks Farm in the mid- to late 4th century, although dating of several of the grave goods could extend its use into the 5th century (Eckardt *et al*. 2015, 217).

More burials were found in 1987 at the Yorkshire Water Depot in Brompton, 800m to the north of the Late Roman walled town (see Fig. 1.9; Thubron 2002). Eight inhumations and two possible cremation burials were found dispersed along a 45m long area immediately to the west of Dere Street, and a ninth inhumation was found at the east side of the road, 15m further north. No evidence for Roman settlement is known nearby, although this could in part have been removed by the industrial development in this part of Brompton since the 1960s (Abramson 1995b). The burials can be interpreted as representing a small roadside cemetery, and as a result it is worth noting the reputed findspot of two stone lions in 1839, which was located adjacent to Dere Street and close to the possible cemetery; these stone carvings could have derived from a funerary monument (Blagg 2002, 287; Wilson 2002a, 23 and plate 12). Both possible cremation burials excavated at the Yorkshire Water Depot contained sherds of 3rd- or 4th-century pottery, although these may have been residual. All the inhumations contained adults, comprising three young middle adults, three old middle adults, one aged 30–50, and two individuals of uncertain age. They included one female, six males and two possible males. Many of the burials were severely truncated or disturbed; however, where the body position could still be determined, the female lay supine but with her legs flexed to one (unspecified) side, one of the males lay in a crouched position on his right-hand side, another male lay on his right-hand side in an uncertain position, and two other males probably lay in an extended supine position. The female and four of the male or probable male skeletons were orientated with their heads to the north or north-west, and one of the males lay with his head to the south. This last grave contained the only likely grave goods, which comprised a group of cattle bones deposited within the grave fill above the burial. Considering the positioning of the burials with reference to Dere Street, they must have been of Roman or later date. Although no dateable grave goods were found in the inhumations, the presence of Late Roman pottery in the possible cremation burials could suggest a similar date for the adjacent inhumations. However, as observed by Thubron (2002, 241), there remains the possibility that this group of graves date from the post-Roman or Anglian period.

Compared to the burials previously excavated from the various sites at *Cataractonium*, there was rather less funerary evidence from the roadside settlement at Bainesse. The majority of the graves here were excavated during improvements to the Catterick South A1 junction during the 1980s (CfA Site 46; Wilson 2002a, 139–85). Roman and early post-Roman burials in this area were interspersed with Anglian interments (Wilson *et al*. 1996), and despite a small radiocarbon dating programme undertaken to distinguish the two groups (Bayliss 2002) a number of the unfurnished burials could have dated to any of these periods. With this proviso, the following description only includes the 17 inhumations phased by Wilson to the Roman period. The graves were found in three separate excavation areas, and all lay in what are considered to represent back-plot locations within c.50m of Dere Street. Three burials and several possible unexcavated graves were found to the west of the A1(T), and therefore Dere Street, in an area that partially coincided with the A1 scheme excavation in Field 159A. Four additional graves were found within a second area, located on the opposite (north-east) side of the A1(T). A third, smaller, excavation, located 200m to the south-east, near Bainesse, produced the remaining 10 burials. Many of the burials were insecurely dated, and some of the dates suggested by Wilson can only be taken as a *terminus post quem*. Overall, interments were probably taking place across the whole area from the late 1st or early 2nd century to the 5th century.

The group of skeletons comprised seven males (one young adult, three old middle or mature adults, and three other mature adults), four females (one young middle adult, two old middle or mature adults and one of uncertain age), an unsexed old middle adult or older, two adolescents, a juvenile and two younger juveniles. The majority of the bodies had been interred in an

extended supine position, although flexed positions were recorded in three graves; an old middle adult female lay in a crouched position on her right-hand side, one of the adolescents lay in a crouched position on their left-hand side, and the other adolescent lay supine but with the legs drawn up towards the body in what was described as a 'semi-crouched' position. There was no obvious distinction in terms of demography or body position between the three excavation areas. The graves in each area were typically aligned with adjacent boundary features. Where body alignment was recorded (16 graves), the head lay between the north-west and north-northeast in 10 cases (63%), with the remaining burials aligned either to the east or west.

Nailed coffins (in one case iron-bound) were recorded in three graves, all of which were part of the southern burial group. Two other graves (one to the west of the A1(T), the other in the southern group) were partially lined with limestone blocks with a base of stone slabs. Both stone-lined burials were probably Late Roman in date. One (grave 1743) provided a radiocarbon date of cal AD230–570 (HAR-5272) and, based on its relationship to other features, was phased by Wilson (2002a, 178) to between AD350–400+. The second (grave 2567) was originally published as a 'burial of uncertain date' along with the Anglian burials from Bainesse (Wilson *et al*. 1996, 43). The A1 scheme excavation in Field 159A (Chapter 3) has shown that it lay within a small group with a grave containing a cist (Grave **13420**) and another that had been cobble-lined (Grave **13460**), both of which are of later Roman date.

Seven of the graves contained probable or certain grave goods. Three hobnails in an eighth grave could have been residual. One grave in the eastern group contained a coin found lying below the skull. The remaining seven graves containing grave goods all lay in the southern group of burials. The best furnished burial was that of a young adult male, suggested to have been a *gallus* (a eunuch acolyte of the goddess Cybele), who was buried wearing a jet bead necklace with silver clasp, a jet bracelet, a shale armlet, a copper-alloy anklet and nailed footwear. Two pebbles had been placed in their mouth. Another skeleton was found with six hobnails by its feet, possibly representing nailed footwear. An adult female was buried with an object interpreted as either a stylus or spatula. Two burials contained pottery vessels. Of these, an adolescent was accompanied by a Nene Valley jar and a greyware dish, while an infant had been interred with a ceramic flask and either an armlet or purse ring made of iron. Another adolescent was buried with a copper-alloy pin and had an animal bone placed across their mouth.

There was a notable variation in provision of grave furniture and goods, with all the coffins and almost all the grave goods found amongst the southern group of burials, which were all buried in a relatively small area but probably ranged in date from the 3rd to 5th century. Except for the grave containing the iron-bound coffin and the three hobnails, all the burials in the southern group lay to one side of a large boundary ditch and probably within a single enclosure.

Stable isotope analysis of several Roman skeletons from across the Catterick area has identified four individuals who were unlikely to have been from the local area (Chenery *et al*. 2011, 1533–4), all of whom were found during the excavations at Bainesse Site 46. Based on strontium isotope ratios, two had spent their childhoods in areas with very old or very radiogenic geologies, such as those found in the Malverns, the Lake District or the Grampian Highlands, or similar locations in Europe. One of these individuals, a mature adult male buried extended on his left side, was found in the eastern excavation area of Site 46. He had been buried with a coin dated to AD69–70 and was found interred within a grave that had been cut into a ditch that formed part of the earliest phase of back-plot enclosures in that area. He was tentatively dated to the early 2nd century. The second individual was the adolescent buried with the copper-alloy pin and animal bone across the mouth, who was part of the southern group of burials and had probably been buried after AD350. Two other individuals were suggested to have originated outside the area based upon relatively elevated oxygen, carbon and nitrogen isotope ratios compared to the 'normal' Catterick ranges. These two individuals were the *gallus* and an old middle adult female buried in the iron-bound coffin. They were suggested to have come from southern or western England, or the western or southern part of continental Europe. Again, both individuals were located within the southern group of burials.

Only one other previous excavation (other than the A1 evaluation) has identified Roman burials at Bainesse. An excavation at Cowstand Farm, located within the southern edge of the field containing Bainesse Cemetery, identified several features, including one definite, one probable and one possible grave (Taylor-Wilson 2001, 13). The one definite grave contained an adolescent, who was buried in a semi-flexed position on their right side, with the head to the south-west. They were accompanied by nailed footwear, which had probably not been worn. A second feature, in which no human remains survived, was also likely to have been a grave for an individual who had been buried with a tinned copper-alloy spoon. The third feature did not contain either human remains or grave goods. The burials were dated to the late 1st to mid-2nd century, given all three had been cut by a ditch

that produced a pottery assemblage suggesting infilling had occurred in the later 2nd century.

As noted in Chapter 1, 'rural' Roman burials have previously only been found to the north-east of *Cataractonium*. At Scorton Quarry, 2.5km to the north-east of the Roman town (Fig. 1.9), a cremation burial containing hobnails and radiocarbon dated to the 1st century lay adjacent to a series of Late Iron Age inhumations. The cremation burial had been inserted into an infilled curving ditch, which presumably formed part of an enclosure of unknown function that had been respected by the inhumations (Speed 2009, 25). A Roman stone sarcophagus was found 1km to the north of Scorton Quarry at Uckerby (c.NZ 247 022) during drainage works in 1974 and was possibly associated with an unlocated villa (Thorpe 1975, 4). Roman urns, which may have been associated with burials, have reportedly been found just to the north of Gatherley Grange (NZ 231 021), 1km east of Dere Street and 3km north of the Roman town (North Yorkshire HER: MNY13389). No demographic data is available for any of these burials, and only the Scorton Quarry find is dated.

Prior to the A1 scheme excavations, no Roman burials had previously been identified within the road corridor either to the south of Bainesse or, depending on the date of the burials at the Brompton Yorkshire Water Depot, to the north of *Cataractonium*. The NAA excavations have quadrupled the total known burials of this period around these two main settlements, as well as enlarging knowledge of their distribution to the north and south along the Roman road of Dere Street.

TAPHONOMY

PRESERVATION BIASES

A significant point which needs to be made here is that the evidence excavated from the graves represents, at best, a fraction of the material that was originally deposited within them, and this in turn limits their interpretation. The subsoils at the funerary sites, which mostly consist of glacial or alluvial sands and gravels but include boulder clay at Scurragh House and Scotch Corner, present a relatively aggressive environment for the preservation of most organic materials due to them being (usually) free-draining and slightly acidic. Observations from both the A1 excavations and previous work suggests that this is particularly the case where materials lay in direct contact with the subsoil (such as a skeleton and its accompanying grave goods lying in the base of a grave). Preservation in areas where there has been significant human domestic activity that has served to alter the soil chemistry (such as within the Roman town at *Cataractonium*) was usually considerably better.

There is, therefore, a variable quality of preservation at the A1 scheme funerary sites. In more 'rural' locations, human remains no longer survived in many inhumation burials. At Bainesse Cemetery, unburnt human remains only survived in 56% of the inhumation graves and varied in condition from complete skeletons to small fragments. This is close to the equivalent figure of 59% from Hollow Banks Farm (Speed 2002), the only other large cemetery excavated to date in a rural location on the Swale gravel terraces. In contrast, at Brompton West and earlier excavations nearby that were located closer to Roman occupation deposits, all of the graves identified contained human skeletal remains.

Other unburnt organic materials were almost entirely absent from the excavated graves. Where traces survived, they were invariably preserved either as a result of mineral-replacement, such as traces of wood adhering to many coffin nails or shoe-leather attached to hobnails, or due to the biocidal effects of copper, such as the fragment of string accompanying a copper-alloy bead in Grave **203** at Bainesse Cemetery (see Chapters 3 and 8; Gleba *et al*. 2017). In contrast, many inorganic materials, such as pottery, glass, jet and stone, exhibited excellent preservation. Metal objects (including iron, copper alloy and lead) exhibited varying levels of preservation, but often survived in graves where human bone did not.

DISARTICULATED HUMAN REMAINS

It has frequently been noted that much of the population of Roman Britain seems to be invisible in the archaeological record and may have been disposed of in ways that are archaeologically undetectable (Esmonde Cleary 2000, 127–8; Smith *et al*. 2018b, 275–7), displaced post-burial or otherwise manipulated post-mortem (Pearce 2013a, 461–2). For the Roman period, hints of such practices are found in the quantities of calcined bone that were recovered from many of the inhumation backfills at Bainesse (comparable to what has been previously noted for similar contexts at Healam Bridge; Holst and Keefe 2017, table 16), or the disarticulated human bones distributed through the stratigraphic sequences in what are ostensibly 'occupation' areas at *Cataractonium* where no graves were found (e.g. Agricola Bridge, Field 176EC, and Brompton East, Field 179). Considerable effort was made on the A1 scheme to identify all human bone where possible, leading to totals of 464.81g of burnt human bone fragments and 1,074 unburnt disarticulated bone fragments from Bainesse, 502 unburnt disarticulated bone fragments and six deposits of burnt bone from *Cataractonium*, and 59 fragments of disarticulated bone from the Other Sites. Uncertain material (burnt and unburnt) was examined by both animal and human bone specialists, and it may be that the presence of human

remains outside of burial contexts is a more widespread phenomenon that has been highlighted by the intensive sampling undertaken as part of the A1 scheme. It must be considered that truncation by other features could be responsible for some of the movement of bone, although cremation-related deposits were also found at Brougham in non-funerary features (Cool 2004).

Most disarticulated human bones found at Bainesse and the Other Sites derived from burial contexts, and the majority of such remains from Brompton West could be attributed to nearby burials disturbed either in antiquity or by modern activity. The pattern was very different for the disarticulated human remains from *Cataractonium*. None of the bones found at Brough Park, Fort Bridge, Agricola Bridge or Thornborough Farm (Field 175) were found in graves. At Brompton East, apart from three disarticulated neonate bones found in Grave **9343** (and presumably deriving from the neonate interred here), disarticulated bone was also retrieved from non-funerary contexts.

The small number of in situ inhumations found at Fort Bridge and Brompton East were all foetuses or neonates, while no in situ inhumations were found at Brough Park, Agricola Bridge or Thornborough Farm (where excavation was extremely limited). The pattern this suggests, of only perinates being buried within the settlement, is reflected to some extent by the disarticulated bone assemblages from these sites. Although children have more bones than adults, their smaller remains are less likely to be recovered during excavation. However, excluding single teeth that could have been lost ante-mortem, 16 of 24 bones (67%) at Fort Bridge were from neonates, one of two (50%) at Thornborough Farm, and 14 of 25 (56%) at Brompton East (although it should be noted that many bones in the latter group came from a single context and probably represent a single redeposited individual).

The source of the remaining bones, which originated from older children and adults, remains unknown. At Brompton East, full stratigraphic excavation of a large area of archaeological deposits did not identify any evidence for inhumations other than a single neonate of 3rd-century date. However, disarticulated human bones were found throughout the stratigraphic sequence from the 2nd to 4th/early 5th century. Smith *et al*. (2018b, 275–7) collated considerable evidence from across Roman Britain for the deposition of disarticulated human bone. They concluded that "…funerary practices that did not result in the interment of the individual were a consistent feature of the country-side in most parts of Roman Britain…" and that deposition (and sometimes manipulation) of disarticulated human bone did not diminish through time, being found as commonly in mid- to late Roman contexts as in Late Iron Age to early Roman contexts (Esmonde Cleary 2000, 136; Smith *et al*. 2018b, 277). Given this apparently common practice across Britain, it seems likely that at Brompton East (which meets the criteria for inclusion in Smith *et al*.'s survey) human bones were either deliberately or unintentionally being brought to the site throughout the Roman period and subsequently placed or discarded within a wide range of deposits, such as layers and ditch and pit fills. Although analysis of the excavation records from Fort Bridge and Agricola Bridge is ongoing, there appears to be a comparable pattern of deposition of disarticulated human remains through time.

In contrast, as discussed in Chapter 4, many of the disarticulated human remains found at Agricola Bridge derived from the 'dark earth' horizon that overlay the stratified occupation sequence, which presumably represents a separate late phase of inhumation burial within the walled Roman town.

Although the discovery of disarticulated human remains is very common within Romano-British settlement sites, including some where there is no evidence for formal burial (Smith 2017, 48), detailed published comparanda for the assemblage of disturbed disarticulated human remains from the A1 scheme sites is limited. Pearce (2013a, 461) has advocated for better recording and analysis of such material during future excavations and the situation is gradually improving (Smith *et al*. 2018b, fig. 6.54). The expanding national dataset for instances of disarticulated remains may in the future provide greater insight into the processes involved in their deposition, although, as noted above, the most recent study has concluded that some of the material is likely to result from a continuing Iron Age practice, particularly in rural areas, of excarnation (above-ground exposure and/or display of the body rather than burial), possibly carried out alongside other practices, such as dispersal of cremated remains and deposition of remains into water (ibid., 276).

Human skulls, isolated from other parts of the skeleton, are a well-known phenomenon on British Iron Age sites, where they are the most frequent body part found (Haselgrove 2016, 442). Heads had a particular significance in the Late Iron Age, when they have been suggested to represent prized war-trophies and appear to have held meaning whether for identity, power or some other ritual function. This seems to have continued into the Roman period, with stone head-images found at a number of sites, particularly in the north and west of Roman Britain (Aldhouse-Green 2004, 191–4). Isolated human skulls continued to appear in Romano-British contexts and have been noted on a number of sites

(Philpott 1991, 77; Isserlin 1997, 94–6), and Smith *et al*. (2018b, 276) note that cranial fragments are over-represented in Roman disarticulated bone assemblages. Comparable deposits have been found at *Cataractonium* and less commonly at Bainesse. During the 1972 excavations at Catterick, a skull was found in a pit dated to the late 1st or early 2nd century (pit P IV 9; Wilson and Wacher 2002, 126), and a 4th-century deposit at the same site produced another example (layer P IV 4; ibid., 135). A skull has also been found in a ditch at Bainesse (Wilson 2002a, 180). Trial trenching for the A1 scheme found the facial part of a cranium in a small ditch to the south of Cataractonium at Catterick Racecourse (context **602**), which provided a radiocarbon date of cal AD132–333 (1790±35BP, SUERC-39629). Given its completeness and fragility, it seems unlikely to have been redeposited from a disturbed burial. Other finds from the A1 excavations at *Cataractonium* have included partial skulls at Brough Park, Fort Bridge, Agricola Bridge, Brompton West and Brompton East. While some were found in areas containing disarticulated bone from other parts of the human skeleton (and hence possibly represent disturbed burials), the skulls at Brough Park and Catterick Racecourse were from locations where no other disarticulated human bone or inhumations were identified.

NEW ROMAN AND EARLY MEDIEVAL BURIALS IN THE VALE OF MOWBRAY

BAINESSE CEMETERY

The majority of the newly discovered burials were found at Bainesse Cemetery, which lay to the west of the Roman settlement flanking Dere Street (Fig. 11.1). The excavated portion identified the northern, western and southern limits of the cemetery, although it is likely to have continued to the east. The cemetery contained 249 recognised graves, of which 232 were inhumations and 17 were cremation burials. Of the 232 presumed inhumation grave cuts, only 121 contained any human remains, which represented 127 individuals. In addition, 1,074 unburnt disarticulated human bone fragments and 464.81g of residual burnt human bone fragments were recovered.

Based on the results of the stratigraphic, artefactual and radiocarbon analyses, the whole of the excavated part of the cemetery was in use from the 1st to the 4th century AD. Later 4th- and 5th-century graves were restricted to the southern part of the cemetery, with the latest burial providing an unmodelled radiocarbon date of cal AD429–630. In addition, a single definitively Anglo-Saxon burial, dated to cal AD904–1024, was located near the centre of the investigated area, though its placement within the cemetery, c.300–600 years after its last period of use, may be coincidental.

Finds included definite or possible evidence for footwear (n=53 burials; more common in early burials but found throughout the use of the cemetery; see Hamilton, Chapter 10), placed pottery vessels and cremation urns (n=18 burials; dating mainly to the early to the mid-3rd century, although with some 2nd-century examples), as well as additional pottery sherds that may represent residual or disturbed vessels, and items of personal adornment (n=16). A total of 49 inhumations are thought to have contained coffins, which were used throughout the early period of cemetery use, with evidence suggesting diminishing use in later phases. Three possible cists and nine cobble-lined burials were found, some in association with coffins. There were four unusual burials (three found in cists), with two of the skeletons buried in prone positions and two decapitated; all of these dated to the later 4th or 5th centuries.

CATARACTONIUM

Human burials at *Cataractonium* were excavated in areas to the east and west of Dere Street and to the south and north of the River Swale, with most burials being identified at the northern edge of the Roman settlement on the western side of Dere Street. In total, 35 burials were excavated, of which 26 were inhumations (containing 31 individuals) and nine were cremation burials, including at least one *bustum*. An additional 502 disarticulated human bones and bone fragments were recovered from a range of features and deposits associated with the Roman town.

OTHER SITES

Further Roman burials were excavated to the north of *Cataractonium* at Scurragh House and Scotch Corner, and to the south of Bainesse at Low Street. These included 11 inhumations, the remains of an individual interred in what was interpreted as the stoke-pit of a corn dryer, four cremation burials and 59 fragments of disarticulated human bone.

FUNERARY PATTERNS IN THE VALE OF MOWBRAY

In order to address the themes of individual identity, origins and culture, religion and belief, and continuity and change within Roman and early medieval burial practices across the A1 scheme, it is useful to present a single combined dataset that includes Bainesse Cemetery and its surrounding area, *Cataractonium* and Scurragh House, as well as the burials at Scotch Corner and Low Street. This allows similarities in burial practices to be identified, while variation is considered based on the comparison of data from the different locations, which is

presented in Chapters 3–5.

BURIAL TYPE

Evidence for the funerary process in the group of burials currently under consideration is, as is so often the case, extremely limited. Based on literary sources, Roman funerals in the Mediterranean world were protracted and complex affairs involving processions, ritual and display, little of which is likely to have left much evidence in the archaeological record. It is therefore exceptionally difficult to reconstruct the complete funerary process (McKinley 2006, 87; Pearce 2017). Textual evidence and visual representations usually concentrated on the earlier parts of the rites, such as laying out of the body, processions and communal meals at the funeral (Pearce 2013a, 450). Objects used during these rituals (including those buried with the deceased) could have abstract meaning and represent metaphors to the participants (Gardner 2007, 65–6). Thus, the rhetoric of the presentation of the body and any items in the grave as an embodiment of key social and cultural values remains poorly understood, as does the effort and expense invested in the funerary ritual (Pearce 2013a, 451).

Cremation burial

The results from the A1 scheme, together with those from previous excavations in the Catterick area, have demonstrated that the pattern of local Roman burial traditions was intricate and varied. Apart from variation through time, different rites were being employed contemporaneously at different burial sites or even within the same site, as seen in Bainesse Cemetery. This complexity in the way in which the Roman dead were treated at Catterick reflects a pattern recognised at a larger scale across Roman Britain (Booth 2017, 175–6; Smith *et al*. 2018b, 216–26).

It has traditionally been suggested that the funerary ritual of cremating the body was almost entirely replaced by inhumation in the later 2nd century (Jones 1984; Hope 1999; Ottaway 2005). This was based on the localised pattern found in southern (particularly south-eastern) England, where (as discussed above) the bulk of the excavated evidence for Roman burials has been found. However, it is now recognised that the pattern nationally (and also in the south-east) is much less straightforward (Smith *et al*. 2018b, 216–26). A further complication is the uneven temporal spread of excavated burials, obscuring patterns of change through time. In most areas of England, excavated burials generally increase through the Roman period and peak in the 4th century, although in eastern England they peak in the Early Roman period, and a similar result in Wales derives from a bias towards cemeteries associated with early military *vici*. In northern and central-western parts of England, the data is similarly skewed towards the Middle Roman period by the contribution of a small number of cemeteries associated with military sites dated to this period (*ibid*., fig. 6.7). Even within these broad geographic zones, considerable variation in rates of burial through time have been recorded at a more limited landscape-zone scale (*ibid*., fig. 6.5).

In both the Late Iron Age and Early Roman periods, cremation burials were concentrated primarily in the south-east of England, suggesting that the Early Roman use of this rite in the area was mainly as a result of continuing local tradition, although in both periods inhumation was also practiced (Smith *et al*. 2018b, 218–22). In other areas, including Yorkshire, inhumation is considered to be the main rite practiced during the Late Iron Age and continued throughout the Roman period, with cremations relatively scarce at any time (*ibid*., figs 6.12–6.15), although this may be an artefact of the lack of dating of such unurned cremation burials. Against this background in northern England, cemeteries comprised exclusively of cremation burials that date to the Roman period, such as Brougham, Cumbria (Cool 2004), or Waterdale, South Yorkshire (Caffell and Holst 2012c), are unsurprisingly rare, and it is more common for a small number of cremation burials to be found in larger inhumation cemeteries, such as at Driffield Terrace in York (Caffell and Holst 2012b) or at Bainesse Cemetery (see Chapter 3).

As in the rest of Yorkshire, there is currently no evidence that cremation was ever the majority funerary rite amongst the civilian Roman population in the Vale of Mowbray. Inhumation appears to have been the norm from the outset at both *Cataractonium* and Bainesse, reflecting (and continuing) in a modified form the prevailing local Iron Age tradition. Although only one in situ early 2nd-century adult inhumation is known from *Cataractonium* (Grave **20955** at Brompton West; see Chapter 4), the presence of unburnt disarticulated human bones in the lower part of the Roman stratigraphic sequence within settlement areas investigated by the 1972 Catterick excavation (Wilson and Wacher 2002, 128), and more recently at Brompton East and Agricola Bridge, might suggest the presence of more inhumations associated with the initial phases of the settlement (although see 'Disarticulated remains' above). Where cremation was practiced, it seems to have been episodic and geographically localised. As noted in Chapters 3–5, with the exception of a small number of early examples, cremation burials found in the area were typically of mid- or Late Roman date. These included the late 2nd- to early 3rd-century cremation cemetery at Brough Park, which Smith *et al*. (2018, 209) would phase to their mid-Roman

period, the group of cremation burials likely dating to the 3rd to early 4th century at Bainesse Cemetery, four late 3rd- to early 4th-century burials at Scurragh House, and the late 3rd- to 4th-century cremation burial at Brompton West. The cremation burial excavated at Catterick Bridge in the 1980s can also be added to this list (Wilson 2002a, 189–90). Within Bainesse Cemetery, four of the cremation burials were found to post-date inhumations. Cremation burials in Graves **259** and **260** were cut into the fill of inhumation Grave **202**, cremation Grave **261** was cut into the fill of inhumation Grave **225**, while the cremation burial in Grave **270** was cut into the fill of inhumation Grave **233**. While the evidence at Bainesse Cemetery suggests that cremation of the dead was a practice that was contemporary with inhumation, the available evidence suggests that cremation burial became less common at Bainesse Cemetery by the 4th century AD.

Although inhumation was the predominant Late Roman burial rite, the continued use of cremation burial (including *busta*) into this period, while relatively rare in most parts of Roman Britain, has been recognised to have remained as a minority rite in parts of southern and central England (Booth *et al*. 2010, 503–4) and more widely in civilian contexts across Roman Britain (Smith *et al*. 2018b, 226). Although small numbers of cremation burials have also been recorded at civilian settlements in the north of England, such as Healam Bridge (Keefe and Holst 2012b), and at more rural sites, such as Sewerby Cottage Farm, Bridlington (Fenton-Thomas 2009, 251), such treatment of the body appears to have remained a minority rite outside the military community in northern England (e.g. Cool 2004, 308; Smith *et al*. 2018b, 241–2). The association between cremation and the military in the northern frontier zone is perhaps related to military conservatism (Caruana 2004, 154) and the emperor Septimius Severus being cremated at York in the 3rd century (Cool 2009, 290). Later Roman cremation burials have been found associated with several military sites in northern England, such as Brougham, Cumbria (Cool 2004; McKinley 2004c, 283), and Lanchester, County Durham (Turner 1990). Third-century cremation burials have also been found at Birdoswald (Wilmott *et al*. 2009, 394). The cemetery at Brougham was in use during the 3rd to 4th century AD, and cremated bone was recovered from 322 contexts, 241 features and at least 132 cremation burials (McKinley 2004c, 283; 2008, 169). A range of cremation-related features were identified, including urned and unurned burials (some with redeposited pyre debris in the fill), accessory burials, formal deposits of pyre debris, deliberately emptied graves, and 'cenotaphs' (i.e. undisturbed groups of pots with little or no human bone present; Cool 2004, 18; McKinley 2004c, 284). At Low Borrowbridge in Cumbria, cremation burials cut earlier features interpreted as inhumations and cremation continued in use into the early 4th century (Lambert *et al*. 1996; Caruana 2004, 155). Pottery evidence suggested that the cremation cemetery at Petty Knowes near High Rochester was in use from the early 2nd to the early 4th century (Charlton and Mitcheson 1984, 27), and cremation burials also continued into the 4th century at Beckfoot (Caruana 2004, 154).

The apparently episodic use of cremation at Catterick, with discrete groups of graves at Brough Park, Bainesse Cemetery and Scurragh House, compared to the far more numerous inhumations found across the area, suggests that its use was not part of an ongoing funerary culture amongst the civilian population. Instead, it is more likely to represent periods when military units, which followed a wider northern military cremation tradition, were stationed in the area. The main features of this tradition, as described by Caruana (2004, 161), are the absence or rarity of inhumations (even in late Roman cemeteries), the inclusion often of only token amounts of cremated bone, the sparseness of grave goods—for example, where pottery vessels occur, aside from the cinerary urn, the usual vessels accompanying the deceased are beakers, and other items in graves (apart from charcoal) are mainly limited to nails and hobnails—and the occasional occurrence of stone cists. Cists were not found in cremation graves at Catterick, but otherwise the small groups of cremation burials found on the A1, particularly at Bainesse Cemetery and Brough Park, conform well to these criteria for military cremation graves. As suggested above and in previous chapters, other aspects of the rites employed in the cremation graves at Catterick, such as the *bustum* at Brough Park, bone plaques from a possible bier at Brompton West, and the presence of a military-type brooch within the cremation burial encircled by a gully at Bainesse Cemetery, may also derive from military traditions and were not typical of the wider civilian population.

Continuation of cremation into the late 4th or early 5th century is suggested by burials at Parlington Hollins, West Yorkshire, Healam Bridge and Catterick Bridge (Holbrey and Burgess 2001, 99; Wilson 2002b, 466; Ambrey *et al*. 2017, 152), and it appears that cremation continued as a minority funerary rite in north-eastern England into the early post-Roman period and later. Sidonius Apollinaris, writing in 5th-century Gaul, describes a cemetery where burial was still taking place as being overcrowded with burnt and unburnt bodies (Liber III, Epistula XII; Dalton 1915, 78–9), suggesting that such varied funerary rites in a single cemetery was a normal practice.

Given the low weights of human bone in most of the

cremation burials within Bainesse Cemetery (9g to 1,274.3g, with a mean of 212g), it appears that only a representative sample of bone was collected from the pyre and this was buried as a token deposit, which was the norm for Roman cremation burials and typical of northern military sites (Caruana 2004, 161; Caffell and Holst 2012b; 2012c; Thompson *et al*. 2016). Archaeologically, it cannot be determined where the rest of the bone was deposited, and it has been suggested that the remaining cremated bone and pyre material was buried or scattered elsewhere (Burleigh and Fitzpatrick-Matthews 2010, 236). At Driffield Terrace, York, 19 features included cremated bone assemblages, and eight of these were from the backfill of inhumations (Caffell and Holst 2012b). Similarly, at Bainesse, 45 different features produced a total of 464.81g of residual cremated bone and, like the unburnt disarticulated bone, this was largely found in samples from the backfills of inhumations. In contrast, no residual cremated bone was recovered from burials around *Cataractonium*.

Bustum burial

McKinley (2017b) defines *bustum* burials as relatively deep (>0.5m) rectangular pits, measuring approximately 1m by 1.5m. The remains of the pyre, which would have been constructed over the pit, are collected within the burial during the cremation process, with the remains of the cremated individual falling in approximately the same position that they were placed on the pyre. The pit should therefore contain the in situ cremated remains of a single individual, or potentially multiple individuals.

Weekes (2008, 149) has suggested that no sufficiently compelling evidence is yet available to prove the existence of the so-called '*bustum* burial', at least in Britain. His statement is based upon the fact that the amounts of human bone expected from such a feature have rarely been recovered. While McKinley (2017b, 267–8) agrees that true *bustum* burials are rare, she has identified several '*bustum*-type' burials, where the human remains have been manipulated following cremation. Examples of these include the bone being raked into one spot or collected in an urn, which was then replaced into the pit, as is the case with the *busta* at Pepper Hill, Springhead, Kent (*ibid*., fig 10.6). *Bustum*-type burials appear to span the entire Roman period in Britain (Mackinder 2000; Booth *et al*. 2010) and until recently were believed to be associated with major towns and military sites. However, recent work at Pepper Hill reveals that such practices were also carried out in small towns (Biddulph 2006a).

A possible *bustum* burial (Grave **6790**) was identified on the A1 scheme in the discrete area of funerary activity at Brough Park (Chapter 4). It was radiocarbon dated to the early 3rd century AD. Osteological analysis revealed that the cremated bone assemblage consisted of at least five individuals, including three adults, as well as one younger and one older juvenile. The grave consisted of a rectangular pit cut roughly from north-west to south-east, with severely scorched sides. When the contexts that were divided into zoned spits were analysed, the primary fill (context **25004**) appeared to represent the remains of an individual burnt in situ, with skeletal elements distributed throughout the deposit in anatomical order. Notably, the bone weight from this context (1,456g) corresponded approximately with the quantity of bone expected from a modern adult cremation (McKinley 1993). The evidence suggests that, following the in situ cremation of a single adult, pyre-debris incorporating the remains of another four individuals who had been cremated elsewhere were inserted into the *bustum* pit, either intentionally or perhaps incidentally while clearing a nearby communal pyre-site (*ustrinum*).

Cremation process

The pyre fuel of choice for the Roman cremation pyres across the A1 scheme was primarily oak, which is unsurprising considering its abundance and the fact it burns slowly at high temperatures, providing a sustained source of heat (Gale and Cutler 2000, 205). While a preponderance of oak was identified, a number of other species was also used (see Baines, Chapter 9), which may suggest indiscriminate and opportunistic rather than purposeful fuel collection. While it is possible that certain timber was collected and burnt because of specific associations, such as for remembrance or rebirth, such theories are speculative considering the wide range of species used.

In comparison, a variety of wood species was also utilised in the cremation pyres at Lankhills, with most cremation burials containing at least four taxa. However, it was found that oak predominated within the early to mid-4th-century cremation burials (Booth *et al*. 2010, 441). Similarly, at Cirencester, carbonised pyre remains appeared to be limited to one or two species per cremation, with oak being predominant throughout, although Rosaceae (roses and fruit trees) and lime were also used (Gale 2008). Pyre material from other excavations at Cirencester was also dominated by oak, along with significant quantities of hawthorn/rowan/crab apple and smaller quantities of ash and cherry (Cobain 2017b). In contrast, the most commonly used wood for fuelling the cremation pyres at the Roman cemetery at Brougham, Cumbria, was birch and alder (Campbell 2004). At Trentholme Drive, York, analysis of charcoal from cremation urns has revealed that the majority of wood (60%) was ash (*Fraxiunus*), with a further 20% oak (*Quercus*) and 10% hawthorn (*Crataegus*), the remainder

being either hornbeam (*Carpinus*) or hazel (*Corylus*) (Blackburn and Metcalfe 1968).

The absence of ash (*Fraxinus*) from the charcoal assemblages on the A1 scheme other than at Scurragh House is of interest, especially considering the range of other taxa represented. Analysis of charcoal derived from metalworking contexts from previous excavations at Catterick was shown to consist largely of oak (*Quercus*) with some hazel and single occurrences each of alder (*Alnus*) and birch (*Betula*) (Bayley *et al*. 2002, 164). The absence of ash from both funerary and industrial assemblages may suggest the fuel for each activity may have derived from a common supply, rather than collection of wood specifically for pyre construction.

Thompson *et al*. (2016) have proposed that trends observed in four cremation cemeteries in northern England suggest it was common for the cremation pyre to be left untended, resulting in uneven burning, which was also the case at *Cataractonium* and Hungate, York (Holst 2003, Keefe and Holst 2017d). If a pyre is tended, a greater uniformity of colour in the cremated bone is expected, as was observed at Bainesse Cemetery (see below), as enough heat can be applied to all of the skeletal elements equally. In contrast, when the pyre is unattended, the skeletal elements at the edges of the pyre are cooler and therefore incompletely calcined (McKinley 2015). Thompson *et al*. (2016) suggest that medium-intensity burning, indicative of untended cremation practice, may have been the prescribed standard of the Roman military.

Unlike many Roman military cemeteries in northern England, where cremation fragment size was large and bone colour variable (Thompson *et al*. 2016, 834), bone fragment size was small at Bainesse Cemetery and the bones were of relatively uniform colour, suggesting that the pyre was likely better tended, similar to the assemblages at Waterdale, Doncaster (Caffell and Holst 2012c). In contrast, none of the assemblages recovered from *Cataractonium* were solely white, with blue, black and grey coloured bone present, suggesting that incomplete burning was taking place. This is comparable to Mill Mount, York, where the human remains had only been moderately well-cremated (Holst 2005), and at nearby Driffield Terrace (Caffell and Holst 2012) the majority of contexts contained bone that displayed a whole range of colours, from browns and blacks, indicative of charring, to shades of grey and white, suggesting some bone was fully calcined. The 10 cremation burials from Hungate also exhibited differing degrees of calcination (Holst 2003; Keefe and Holst 2017d).

Five of the cremation burials at Bainesse were contained in urns (29.4%), although in the case of some of the burials this was only indicated by the presence of pottery sherds (e.g. Grave **273**). In cemeteries in the south-east of Roman Britain, the large majority of cremation burials contained urns and often accessory vessels, although with considerable variation from site to site. According to McKinley (2008), burial in an urn occurred in 48.2% of the 1,720 Roman cremation burials that she analysed, which derived largely from the southeast of England, while the Roman Rural Settlement Project found that c.60% of cremation deposits nationally were urned (Smith *et al*. 2018b, 259). The incidence of urned burials decreases in the Midlands and west, while north of the Humber most cremation burials were aceramic (Philpott 1991, 30–43; Smith *et al*. 2018b, 260). The current authors have analysed 130 Roman cremation burials from Yorkshire and found that only 18 (13.8%) were urned.

However, against the relatively small number of urned cremations in the north, such burials were relatively common at military sites in Wales and the north. A significant proportion of the cremation burials at Catterick were contained in pottery vessels, namely 29.4% at Bainesse and 55.6% at *Cataractonium*, although none of the four cremations at Scurragh House were urned. These larger proportions of urned burials at Bainesse and *Cataractonium* compare better with the military cemetery at Brougham, where there were 123 urned burials and nine unurned burials (together with 65 deposits of pyre debris; Cool 2004, 444–55). In contrast, only three of 32 cremation burials at Waterdale, Doncaster (9.4%), none of the 18 cremation burials at Driffield Terrace, York, and none of the nine cremation burials excavated at Healam Bridge were interred in urns (Caffell and Holst 2012b; 2012c; Keefe and Holst 2012b).

Burial in an urn at Bainesse was not restricted by age, since three of the five urned burials contained the remains of adults, and two contained non-adults. At *Cataractonium*, five of the nine cremation burials were urned (55.6%). Three of these were of adults, while the other two contained non-adults.

It should be noted that, as well as being interred, cremated remains could be retained above ground in another location for either a short or protracted period (*ibid*., 86; Ambrey *et al*. 2017, 144), taken elsewhere (Tybout 2016), or possibly scattered (Wheeler 1985, 231; Lambert *et al*. 1996, 122). Most of these practices are difficult to detect in the archaeological record.

Inhumations

In the Roman world, there was a belief in an afterlife and that the dead were able to affect the living. Hence, in death, people had to be treated with respect and their influence over the living limited (Esmonde Cleary 2000, 140). Many of these concerns could be satisfied by the

proper rituals, both at the time of death and subsequently, but a more practical approach included provision of an adequate and securely contained burial place.

Many of the Roman-period burials at Catterick, as is common elsewhere, retain no evidence for any elaboration of the grave cut itself beyond excavation of a pit large enough to accomodate the body (or coffin) and any grave goods. These grave pits, as they survived, varied considerably in shape and size, although to what extent truncation had affected the apparent form of the shallower examples was often difficult or impossible to determine.

The majority of all the inhumations where human remains were preserved consisted of simple burials. However, at Bainesse, *Cataractonium* and Scurragh House, a substantial number of coffin burials were identified (30%), and a small proportion of the burials at Bainesse and *Cataractonium* (7%) had been interred in cists or cobble-lined graves (Fig. 11.2). Each of these traditions are discussed below.

Simple inhumations

Over half of all graves found on the A1 scheme were simple 'earth-cut' inhumation burials (63% of all inhumations with preserved human remains). At Bainesse Cemetery and its surrounding area, 79 of the 131 (60.3%) graves where bone survived were simple inhumations, with the vast majority containing adults and a slight preponderance of males amongst the limited number of individuals where sex could be determined (16 males versus 10 females). The non-adults in simple earth-cut graves consisted mostly of younger juveniles aged one

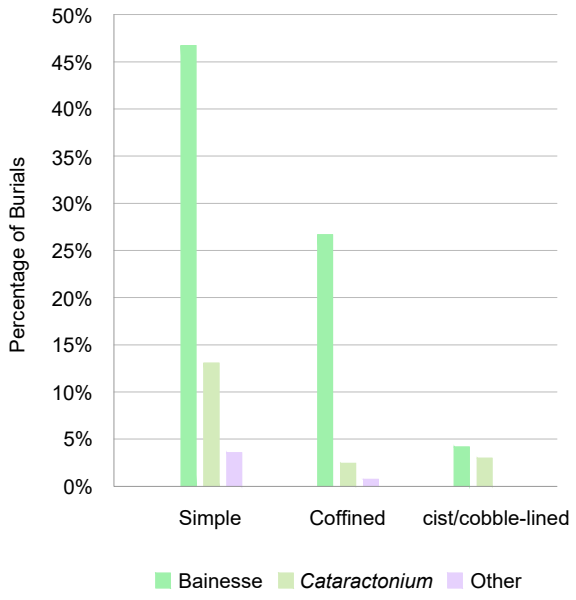


Figure 11.2: proportion of all Roman and early medieval inhumations containing preserved human remains in simple, coffined and cists/cobble-lined graves.

to five years, although older and younger individuals were also present (see Chapter 6). At *Cataractonium*, 22 of the 31 (71.0%) individuals appear to have been simple inhumations. Over half of these contained adults (seven males, two females and three unsexed), while 10 contained non-adults, consisting largely of younger children (four perinates, three young juveniles, one foetus and one adolescent). The majority of male burials were oriented from west to east (four of seven; 57.1%). Six burials from the Other Sites appear to have been simple inhumations, all of which contained adults (although two skeletons could not be more precisely aged) and sex could only be established in one individual (a male). Half of the inhumations were oriented north to south (n=3; 50%). The small proportion of graves where reliable age and sex data could be recovered compared to the total number of graves does, however, make it impossible to draw any meaningful conclusions from this data.

Coffins

As may have been expected, evidence for the use of coffins was found at several of the A1 scheme sites that contained Roman burials. The exceptions were Scotch Corner (where the only burial did not contain a coffin), and Brompton East and Fort Bridge, where only neonate burials and a cremation burial were found, Brough Park, which contained only cremation burials, and Low Street, where the only grave was a single 'rural' burial.

There are many Roman cemeteries in northern England with evidence for coffins, including several cemeteries in York. At Driffield Terrace, 14 graves (19.7%) contained coffins, while all but one of the skeletons at Mill Mount were buried in wooden coffins (Holst 2006; Caffell and Holst 2012b). At Trentholme Drive, the presence of 2,300 coffin nails was used to infer that many, if not the majority of individuals, had been buried in coffins (Wenham 1968, 39), although a more recent excavation at Newington Hotel found that only 29 of 76 graves (38%) contained coffins (Keefe and Holst 2018). Evidence from further afield, such as Oxford Street and Western Road in Leicester, Baldock in Hertfordshire, and Horncastle in Lincolnshire shows widely varying percentages (from 1.8% to 57%) of graves containing nailed coffins (Caffell and Holst 2008; Keefe and Holst 2013d; Keefe *et al*. 2015b; Caffell and Holst 2016). The evidence therefore suggests that use of coffins, as with many Roman burial practices, varied considerably depending on local preference.

As with the sites mentioned above, the identification of coffin use in burials on the A1 scheme was based on the recovery of coffin nails. It should be noted that coffins could also be constructed without nails, and therefore might leave little evidence for their presence

in the archaeological record. In total, 53 coffins could be identified from the A1 scheme; 47 at Bainesse; five at *Cataractonium*, and one at Scurragh House. The proportion of features containing nailed coffins at Bainesse Cemetery (47 of 232; 20.3%), *Cataractonium* (5 of 26; 19.2%) and Scurragh House (1 of 7; 14.3%) was relatively consistent across the area.

At Bainesse Cemetery, coffin wood had been preserved in nail corrosion in some cases, and in all identifiable examples, coffins had been made from oak (see Baines, Chapter 9). The coffined individuals that could be aged at Bainesse Cemetery consisted of 22 adults (eight males, three females and 11 unsexed adults) and 21 non-adults (10 young juveniles, three adolescents, one older juvenile, one infant and four non-adults who could not be aged more precisely). At *Cataractonium*, five graves with coffins were identified, four of which contained adults, including three females, and one unsexed adult; no human remains were recovered from the fifth coffin. At Scurragh House, only one burial appeared to be coffined (Fig. 11.3), which contained the remains of an unsexed adult. Taking the Roman burial population as a whole, the evidence from the A1 scheme suggests that provision of a coffin was not determined or restricted by sex or age (Fig. 11.4). However, when an inter-site comparison is made between burial evidence from the A1 scheme, there was a difference in the use of coffins between Bainesse Cemetery and *Cataractonium*. At Bainesse Cemetery both adults and non-adults were interred in coffins, whereas only adults were at *Cataractonium*. Although sex could only be securely identified in a small proportion of these burials, there also appeared to be a difference in the representation of coffin use between males and females, with the available human remains suggesting that only females were buried in coffins at *Cataractonium*, and both sexes, although a greater proportion of males, were found in coffins at Bainesse Cemetery. However, the result from *Cataractonium* was presumably a product of the very small sample size, since previous excavations at Catterick Bridge and Hollow Banks Farm have found males, or probable males, buried in nailed coffins (Thompson 2002; Eckardt *et al*. 2015).

There was tentative evidence at Bainesse Field 159A for the use of a coffin, with one grave containing three disturbed nails, while in another the stone packing suggested the presence of a possible non-nailed coffin. However, burials that have been previously excavated nearby contained no evidence of coffins (Wilson 2002a, 181). There was some evidence that non-nailed coffins (presumably assembled using joints or wooden pegs) were employed at *Cataractonium*, and this form of burial container may have been more common. The modelled radiocarbon dates from Bainesse Cemetery indicate that the use of nailed coffins extended throughout the Roman period (Hamilton, Chapter 10), and probably continued into the early post-Roman period. However, there is no evidence for nailed coffins from any of the early Anglian burials that have been excavated in the area.

Cist and cobble-lined burials

Here, the term cist has been used to refer to a grave that had stone construction substantially enclosing and/or (where evidence survived) covering the body using mostly stone slabs that would have been brought to the burial site, suggesting planning and pre-funeral organisation. Those classified as stone/cobble-lined graves featured cobbles arranged around part or all of the circumference of the base of the grave with no capping elements. So, for example, Grave **217** at Bainesse Cemetery, although only partially cobble-lined, has been defined as a cist because it had a set of capping stones. Given that the capping stone provides the defining criteria between cists

Figure 11.3: Scurragh House: coffin stain and remnants of the skeleton in Grave 10825. The white tags mark the lower coffin nails.

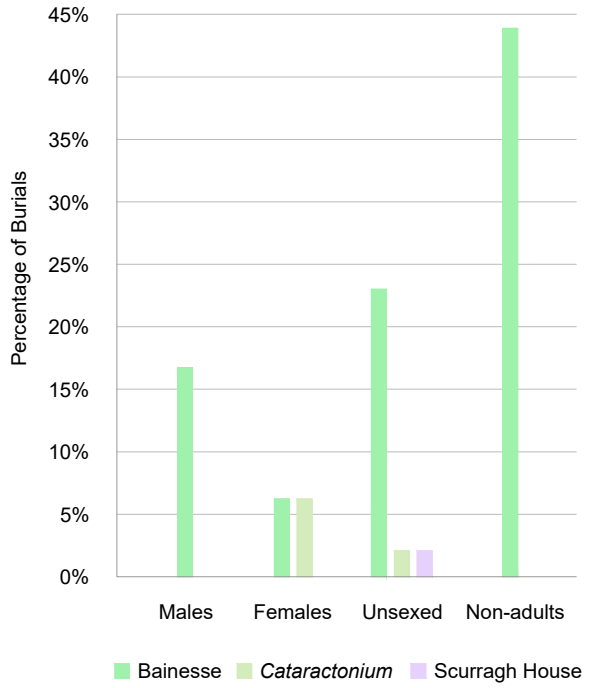


Figure 11.4: distribution of coffins by sex and age for Bainesse, Cataractonium and Scurragh House.

and stone/cobble-lined burials, it should be noted that some graves classified as stone/cobble lined may have once been cists of some form and have subsequently lost their capping stones through ploughing, stone robbing or other processes.

The purpose of cists and stone or cobble lining of graves remains unknown but has been interpreted in a variety of ways. Cooper and Buckley (1996, 22–3) favoured a functional interpretation, suggesting that the features served to mark the position of the burial, although it was conceded that this practical requirement may be born of symbolic reasons. Stone-lined and cist burials may have also demonstrated a respect for the deceased (Philpott 1991, 65), and could have been intended as an act of display of this to mourners.

Eighteen examples of cists (n=5) or cobble-lined (n=13) burials were found during the A1 scheme excavations (Table 11.1; Fig. 11.5); two cists (Graves **217** and **237**), a probable cist (Grave **244**) and nine cobble-lined graves (Graves **99**, **195**, **201**, **202**, **204**, **208**, **209**, **226** and **229**) were located in Bainesse Cemetery; a cist (Grave **13420**) and a cobble-lined grave (Grave **13460**) were found in Field 159A; and a partial cist (Grave **20418**) and three cobble-lined graves (Graves **20601**, **20606** and **20616**) were excavated at Brompton West.

Cists

Although cist burials were used in northern Britain during the later Iron Age (Proctor 2012, 22–3) and appear to have continued in use throughout the Roman period beyond the northern frontier (Tate and Jobey 1971, appendix A; Petts and Gerrard 2006, 56), they seem to have largely fallen out of favour throughout much of the Roman period to the south of Hadrian's Wall. However, occasional examples have been found, such as the small 2nd- to 3rd-century cists (dated by associated pottery) associated with cremation burials in the cemetery related to the fort at Lanchester, County Durham (Turner 1990, 74). Cists were also found throughout Roman Britain in cemeteries at Lankhills, Winchester, Bath Gate, Cirencester, and St Albans (Black 1986).

Table 11.1: cist and cobble-lined burials found on the A1 scheme.

Burial type	Bainesse Cemetery	Bainesse Field 159A	Cataractonium Brompton West	Total
Cist	3	1	1	5
Cobble lined	9	1	3	13
Total	**12**	**2**	**4**	**18**

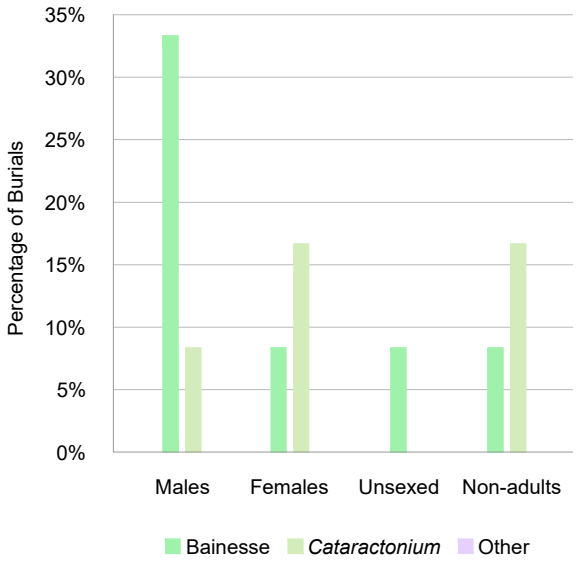


Figure 11.5: sex and age distribution of skeletons in cobble-lined graves and cists.

Cists have been found at Roman sites other than Lanchester in northern Britain, including at Newbridge Quarry, near Pickering, North Yorkshire, and Byram Park, West Yorkshire (Caffell and Holst 2009b). At Crambeck, North Yorkshire, cists were constructed from large limestone slabs, which were used to line the edges of the grave and cap it (Ní Challanáin and Holst 2014), and were dated to the late 4th/early 5th centuries AD. Another example comes from Easington, East Yorkshire, where a Roman burial in a cist was radiocarbon dated to cal AD40–230 (Richardson *et al*. 2011). At Broughton Moor, North Yorkshire, a young middle adult female was buried north–south in a cist in a supine extended position (Holst 2007c), with hobnail boots at/on her feet

and a fibula brooch on her right shoulder.

At Wattle Syke, the burials phased to the later Roman period provided radiocarbon date ranges from cal AD130–420 (Martin 2013, 107–8), and over half of the adults were placed in graves conforming to Philpott's (1991, 61–4) Type 3 cists, consisting of partial lining of the grave with upright stones, occasionally with a partial or complete covering of flat stones. The introduction of this type of grave structure at Wattle Syke, along with a change in burial orientation, reflected a distinction between the Iron Age adult burials and those of the later Roman period (Caffell and Holst 2013), which contradicts Philpott's (1991, 65) suggestion that both cist and stone-lined burial represents a continuation of native burial practices. This is similar to the situation in the Vale of Mowbray, where there is currently no evidence for use of cists in the Late Iron Age, and their use in the Late Roman period therefore appears to be a new development.

There was a resurgence in the use of cist-graves from the 4th century and into the post-Roman period, such as that at the Ingleby Barwick villa on Teesside (Carne and Armstrong 2013, 52–3). The Anglian burials recorded at Bainesse in 1959 were in cists (Wilson *et al*. 1996, 4), and at Occaney Beck, south of Ripon, the burial of an adult male within a cist was dated by the presence of two 7th-century brooches (Waterman 1950). These cist burials of 5th- to 7th-century date found across Yorkshire and the north-eastern counties can be seen as a continuation and development of the Late Roman burial tradition into the Anglo-Saxon period.

Cobble-lined graves

Partial lining of graves with stones or cobbles was common for a long period in north-eastern England. Such linings have been shown to be present in graves considered to be of Iron Age date, such as at Faverdale near Darlington (Proctor 2012, 35–6 and 67–8), through to Anglian burials, as at Hollow Banks Farm near Catterick (Speed 2002). Examples of lining the sides of graves using cobbles and any stone blocks available have been recorded by previous excavations in the Catterick area at Catterick Bridge, the Thomas Armstrong concrete block factory and Hollow Banks Farm (Thompson 2002, 388–9; Speed 2004, plate 10; see also Chapter 4), with two stone-lined graves previously recorded at Bainesse (Thompson 2002, 386–7). Where a date could be suggested for these burials (12 of 13), they were all mid-4th century or later. The people buried in these graves comprised six males or probable males (including one young adult, two young middle adults, an old middle adult and two other adults), three females (one young adult, a young middle adult and a mature adult), two other adults and an older adolescent of uncertain sex, and one grave where no skeleton survived. No children (which were only present at Catterick Bridge) were buried with a cobble lining. Grave furnishing included single pottery vessels in five graves (all male or uncertain sex) and single graves containing other items, such as an iron ox goad, the skeleton of a small bird, two bangles, and, in one of the graves at Hollow Banks Farm, a crossbow brooch and belt-set.

The contents of cists and cobble-lined graves

The cists in Bainesse Cemetery (Graves **237** and **217**) contained a prone young middle adult female, and a supine extended young middle adult male who may have been wearing hobnailed footwear. The probable truncated cist (Grave **244**) contained a possible young middle adult male. All three burials were aligned north-west to south-east. Human remains representing seven individuals survived in six of the nine cobble-lined graves at Bainesse Cemetery (Graves **99**, **201**, **202**, **208**, **209**, and **229**); these represented two young middle adults (one male and one female), one old middle adult male, one unsexed adult, one adolescent and two juveniles, suggesting that neither a specific age nor sex was a prerequisite for burial in such graves. Other factors, such as orientation of the graves, position of the skeletons and date (1st to 4th century AD) varied as well, implying that burial in a cist or cobble-lined grave was not standardised. Particularly large stones were sometimes reserved for the head or foot of the grave, although there was no indication in any case that these originally extended above ground as grave markers. In several cases, the stone lining appears to have been deliberately constructed around a wooden coffin (Fig. 11.6).

None of the cists or cobble-lined graves at Bainesse Cemetery showed a preferred orientation; however, burial position in the graves was supine extended in all but one instance, where the only female amongst the group had been buried in a prone extended position. Where position could be determined, all adult males were oriented north-west to south-east, while the female was slightly more north-northwest to south-southeast. The juvenile was placed in the grave from south-east to north-west and the unsexed individual was north-east to south-west. The individual buried in the cist in Field 159A (Grave **13420**) was an adult male placed in an extended supine position oriented south-east to north-west, with the hands crossed over the pelvis.

In Grave **217** at Bainesse, an effort had been made to acquire cover stones and a large block of limestone to place in the foot of the grave, yet only parts of the sides of the burial had been lined with cobbles. In the same cemetery, the cist in Grave **237**, which was carefully constructed of limestone roofing voussoirs, was missing

Figure 11.6: Bainesse Cemetery: cobble lining around the coffin in Grave 209.

part of one side. In Field 159A, the cist in Grave **13420**, which was mostly constructed from similar voussiors, had cobbles along one side but no lining at the foot end of the opposing side (Fig. 11.7), and a capping stone had been omitted over the pelvic area of the body. Below the centre of where the capping stone should have been, a smaller flat sandstone slab covered the hands, which had been placed together on the lower abdomen.

At Brompton West, the individuals found in stone-lined graves consisted of three adults (one male and two females), one juvenile and one older juvenile. One male and one female were positioned west to east, the other female lay east to west, while the juvenile was orientated north to south and the older juvenile west to east. Where burial position could be ascertained, all burials were laid out in a supine extended position.

Cists and cobble-lined graves discussion

There is some evidence to suggest a trajectory of elaboration through time for the stone grave linings in the Catterick area, perhaps made possible by increasing availability of materials. The cobble-lined graves in Bainesse Cemetery provided modelled radiocarbon dates ranging from the late 2nd to mid-5th centuries AD. However, by the 4th century the stone linings found at Catterick Bridge and the Thomas Armstrong factory began to incorporate flat stone slabs, which were probably available nearby from occupation areas that had become derelict, though these must still have been purposely brought a short distance to the grave site (Wilson 2002a; Speed 2004, 16). For example, stone buildings at the block factory site had become disused by this date and were subsequently replaced by timber structures (Speed 2004, 15). Across all the A1 scheme sites where stone grave linings were more extensive, including those examples where cover stones can be demonstrated (i.e. cists), the burials can typically be dated to the very late or early post-Roman period. Two of the inhumations in Bainesse Cemetery (Graves **217** and **237**), and possibly Grave **244**, which had been truncated, can be described as cist burials. These can be dated to the later 4th or 5th centuries, as can the cist burial in Field 159A (Grave **13420**). Two cist burials recorded during the previous excavations at Catterick Bridge were also likely early post-Roman rather than Anglian; although dated to the 6th century because they cut a layer containing two sherds of undecorated Anglian pottery, there were problems with the phasing of this deposit, which was also recorded as cut by a cremation burial containing 3rd-century material (Wilson *et al*. 1996, 45–6). The style of the cists, which were constructed of flat limestone and sandstone slabs, with a rotary quernstone forming the head end of one cist, was very unlike anything seen in any other Anglian burial in the area but seemed to

Figure 11.7: Bainesse Field 159A: cist incorporating reused armchair voussoirs in Grave 13420.

continue the structural theme documented from nearby late Roman burials (Wilson *et al*. 1996; Moloney *et al*. 2003; Speed 2002).

If the Roman graves from Bainesse and Cataractonium that were excavated as part of the A1 scheme are considered together, 1.9% of inhumations (five of 262) were contained within cists and 5.0% in cobble-lined graves (13 of 262), or if considered as a single burial tradition 6.9% of inhumation burials were contained within stone/cobble-lined features of some description (18 of 262). The restricted distribution of burials containing a cobble lining within Bainesse Cemetery (Graves **195**, **201**, **202**, **204**, **208**, **209**, **226** and **229**, all of which were located in a small area at the north-western side of the ring ditch) suggests that it was favoured by a small sub-section of society, possibly a single family, though additional analysis (e.g. DNA) would be required to ascertain this. The suggested date range for this group of burials (3rd to early 5th century) does, however, show that cobble-lining of graves continued over a number of generations.

ORIENTATION

When considered as a single population, there is a clear indication that preferred orientation was west to east, or a close approximation (62%; Fig. 11.8). Outside the Bainesse Cemetery, and for those within the cemetery located adjacent to the enclosure, graves were most commonly aligned parallel to nearby linear boundary features. These linear features, in turn, were often aligned parallel or perpendicular to the main road routes. While this aspect requires further thought and research (see Fell forthcoming; Ross and Ross forthcoming) it is interesting to observe that burial orientation was potentially, albeit indirectly, determined by the route of Dere Street. Away from such boundaries, some graves in Bainesse Cemetery were aligned parallel to other nearby graves, creating short rows of burials. Others were arranged apparently at random, such that many cut one another on widely varying alignments.

POSITION

Of the 168 Roman inhumations containing preserved skeletons that were excavated at the A1 scheme sites, burial position could be determined for 109 (64.9%) individuals, with extended supine being the most frequently used at the three main burial locations (Fig. 11.9). Of these 109 individuals, 84 (77%) were buried extended supine, six (5.5%) flexed on their right side, four (3.7%) flexed on their left side, three (2.7%) extended prone, three extended on their left side, three prone with their legs flexed, three were supine with their legs flexed, two (1.8%) extended on their right side and one (0.9%) was flexed but the side could not be determined. Of the prone burials, five were adults (four males and one female) and one was a juvenile. Of the flexed burials, seven were adults (four males and three unsexed) and four were non-adults, with adults and non-adults found

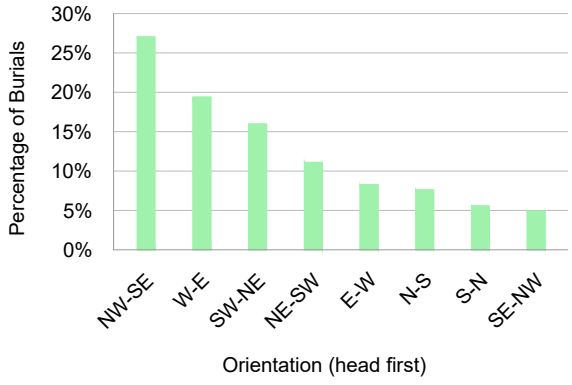


Figure 11.8: orientation of burials for all sites A1 scheme where burial orientation could be determined.

equally on their right and left sides. Of the supine burials, there were almost equal numbers of males and females (18 females, 22 males, 22 unsexed) and 15 were non-adults, suggesting that no specific burial position was reserved for one age group or sex in their occurrence across the area.

GRAVE GOODS: PROVISION AND VARIABILITY

Specific components of the grave good assemblages have been discussed in the various sections of Chapters 7–9. However, some wider points can be made here.

Artefacts in Cremation Burials

Artefacts recovered from cremation burials fall into two main categories. Grave goods are those included in the cremation feature that were not burnt on the pyre with the individual(s), whereas pyre goods are those that were burnt on the pyre and then collected with the cremated human remains, either in their entirety or in part (as a token deposit), for inclusion in the burial. In general, artefacts recovered from cremation burial deposits with evidence for burning are classified as pyre goods, whereas those with no, or extremely limited evidence for burning (as it is acknowledged that if the item(s) are placed close to hot ashes and cremated bone within the cremation feature, some limited scorching may occur), are classified as grave goods. Outside the A1 scheme, evidence for pyre goods has been recovered from a number of other sites, such as melted fragments of glass vessels found at Waterdale and Brougham, which have been interpreted as containers for perfumes and perfumed oils burnt on the pyre with the deceased (Cool 2004, 441; Weston 2011, 44–7). At Baldock, Hertfordshire, 60% of the cremation burials contained grave goods/inclusions of some description (Keefe *et al*. 2015b), and several of the Driffield Terrace cremation burials contained grave goods (Caffell and Holst 2012b).

At Bainesse Cemetery, all but one of the cremation burials (Grave **274**) contained inclusions or artefacts (16 of 17; 88%), compared with 100% at *Cataractonium* (n=9) and at Scurragh House (n=4).

Cremation urns and pottery

Despite the primarily functional role of cinerary urns, inter-site differences were still apparent in the ways that pottery was treated in the groups of cremation burials at Bainesse Cemetery, Brough Park and elsewhere at *Cataractonium* (see Chapter 7).

Leary (Chapter 7) makes a number of observations about the pottery included in the cremation burials at Bainesse Cemetery. The five urned cremation burials (Graves **260**, **261**, **269**, **271** and **273**) were contained in jars of various fabrics. These included a hand-built pot in Grave **260** of a

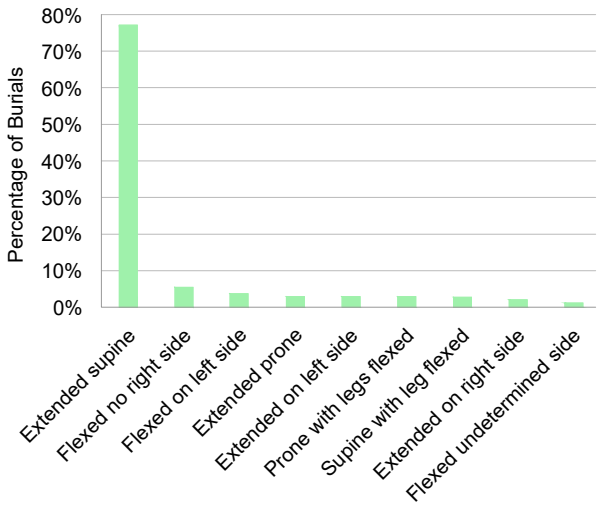


Figure 11.9: burial position for all Roman skeletons on the A1 scheme where burial position be determined.

type not represented in the inhumations at the cemetery. The cremation urns were mostly unburnt, although the vessel from Grave **260** was more oxidised on one side; this could have resulted either from it being hand-built (such vessels are not always fired evenly throughout) or perhaps as a result of being placed near the pyre. The jar from Grave **269** appears to have sagged during production, suggesting it was a second, and it is also likely to have been of some antiquity when buried.

Other vessels represented in the cremation burials were burnt fragments, usually of small jars or beakers, which were often incomplete. It is suggested that this last group represents vessels placed or thrown on to the pyre as part of the funerary rites and gathered up with the bones for burial. They could also theoretically include pyre goods from earlier cremations that had been incorporated within later burial or accidentally burnt residual pottery from earlier phases of occupation in the area. Only one of these vessels was in a fine ware (a scale beaker) and all the coarsewares were of a larger size than those identified amongst the grave goods from the inhumations. Even the scale beaker had a larger rim diameter than most of the beakers recovered from inhumations.

Where ceramics were present, the non-adult cremation burials were provided only with urns, whereas adults also included pyre goods consisting of small jars/beakers. This contrasts with the treatment of these age groups in the inhumations where small jars and beakers were often found with children. Compared to the small jars and beakers associated with the inhumations, those from cremation burials were generally larger in size. These features of the pottery assemblage at Bainesse Cemetery suggest that, apart from selecting cremation over inhumation as a main funerary rite for non-adults, those practicing it also had a differing tradition concerning the provision of vessels (beyond the basic cinerary urn)

to different age groups and selection of the particular vessels employed.

While jars used as cinerary urns at Bainesse Cemetery were generally unburnt, the evidence from Brough Park indicates a slightly different use of ceramics during the burial process, with jars being placed on the pyre and burnt before being used as urns in two cremation burials. Burnt sherds from other less complete vessels are likely to have been pyre goods.

At Fort Bridge, the jar forming the cremation urn in Grave **18207** was not noticeably burnt or fragmented, while the jar containing the cremation in Grave **20400** at Brompton West was scorched around the lower body, although not as severely as the Brough Park cremation urns. No pyre goods comparable to the small beakers and jars at Bainesse were present in these cremation burials.

Copper-alloy objects and coins

Copper-alloy objects, including coins, were found in five cremation burials on the A1 scheme, including the pierced *dupondius* of Antoninus Pius (Cat. no. 57) that had been tied to the neck of the urn in Grave **269** (containing an infant or young juvenile). In the group of 2nd- to 3rd-century cremation burials at Brough Park, three (50%) contained coins, compared to none (excepting a pierced example) in the 17 cremation deposits at Bainesse. Across Roman Britain, coins have been found in several infant burials, including both inhumations and cremation burials (Crummy 2010), and frequently in association with bear figurines and other objects. Furthermore, at Malton and York, coins found in infant graves were frequently pierced (Crummy 2010, 62 and 74). Crummy (2010, 60) suggests that coins with male or female figures on the reverse side were selected for protection of the infant in the afterlife or to aid during illness, since often martial figures are represented.

Hobnails and other iron objects

Ferrous metal objects were included in 11 of the cremation burials (64.7%) and nails in five (29.4%). The presence of nails and ferrous metals may indicate that the individuals were cremated in a container, like a coffin, or it may suggest that the cremated remains were interred in a wooden receptacle. Alternatively, the nails may have derived from artefacts placed on the pyre.

The presence of hobnails could indicate the inclusion of footwear, whether worn by the deceased or placed on the pyre with the body (Cool 2004, 438–9). Hobnails are common finds in cremation burials, both throughout the Roman period and across the Catterick area. An early 'rural' example suggested to be of 1st-century date has been found nearby at Scorton Quarry (Speed 2009a). Overall, 60.7% of the Roman cremation burials from the A1 scheme contained hobnails, including four of the six cremation burials (66.7%) at Brough Park, nine of the 17 (53%) at Bainesse Cemetery, three of the four (75%) at Scurragh House, and the late 3rd- to 4th-century burial at Brompton West (Grave **20106**).

There may be several different reasons why nailed footwear was more common in cremation burials than in inhumations. The body was more likely to be exposed to public gaze when presented upon a pyre (Cool 2011, 298), requiring it to be fully dressed and hence more likely to be wearing shoes (Pearce 2013a, 458). Some groups, such as military personnel and their families, may have considered nailed footwear as a mark of their profession. Hobnails were found in eight of the 16 cremation burials (50%) excavated at Petty Knowes, High Rochester, and in 26 of 71 (37%) such deposits at Low Borrowbridge (Charlton and Mitcheson 1984, 6; Hair and Howard-Davies 1996, 106–8). However, hobnails were relatively uncommon in the cremation cemetery associated with the fort at Brougham, being found in less than 20% of the funerary-related deposits (Mould 2004b, 391), so such a tradition was by no means universal in the north of England and may have varied from unit to unit.

Decorated bone inlay

A cremated adolescent from Brompton West (Grave **20106**) was accompanied by fragments of burnt bone inlay, possibly from a decorated couch that had perhaps been used as a bier to carry the dead to the cremation site. As discussed in Chapters 4 and 8, similar material has been found in cremation burials elsewhere in northern England and beyond. Decorative inlay is thought to have adorned a variety of furniture and is often found in Roman cemeteries (Mould 2011, 161–2). The inlay is generally cut into geometric shapes such as triangles, squares and rectangles, with the decoration usually consisting of grooves, lattices or ring and dot designs (*ibid*.). It is often identified during the analysis of the cremation deposit, as in the case of the *bustum* burial from Norton, North Yorkshire (Keefe and Holst 2018).

Animal remains

Burnt animal bone was recovered from five of the 17 cremation burials at Bainesse Cemetery (29.4%), which is comparable with the proportion of deposits containing animal bone at Brougham (23%; McKinley 2004d, 331), but lower than at Driffield Terrace, where animal bone was identified in eight of the 18 cremation burials (44.4%; Caffell and Holst 2012b). At other sites, lower percentages of cremation burials contained animal bone. For instance, at Waterdale it occurred in four contexts (three features), representing 8.2% of contexts and 9.4%

of features (Caffell and Holst 2012c). McKinley (2006, 84) has observed that between 10–50% of Roman-period cremation burials contain a few grams of animal bone, typically pig, sheep and bird. On the A1 scheme, burnt animal bone in cremation burials at Bainesse could only be identified to species in two cases (Graves **257** and **264**), which both contained remains of sheet/goat. In addition, Grave **6790** at Brough Park contained the burnt remains of a chicken. At Brougham, animal bone was found predominantly with urned burials (*ibid*.) and was interpreted either as food offerings, the remains of pyre-side feasting or a sacrifice burnt on the pyre, although some may have been possessions or companion animals (Bond and Worley 2004, 331; Wahl 2008). From these varying figures, incorporation of animal remains into the cremation burials, whether as sacrifices, food offerings or waste, appears to have been a matter of personal choice amongst those conducting the funeral. There is no clear indication of a divide between, for example, military and civilian contexts, and hence its presence in the burials at Bainesse does not provide an indication of the social status of the deceased.

Grave goods in inhumations

Pottery

On the A1 scheme, placed pottery vessels were found in both cremation and inhumation graves at several sites at *Cataractonium* and Bainesse, and have also come from a number of earlier excavations. All of the placed pottery vessels from inhumations had been added as grave goods; vessels placed in inhumations had no direct practical function and can be seen as performing a more ritualised role in the funeral.

For the accessory vessels placed into inhumations across the Catterick area, there appears to be an interesting large-scale time-related variation in their deposition. The pottery vessels included in burials at Bainesse Cemetery (including those in cremation burials) dated almost exclusively from the early to mid-3rd century, with three early vessels considered to have been already old when buried (see Chapter 7). In the excavated part of the cemetery, burials were aceramic during the 2nd century and in the 4th and 5th centuries. Pottery vessels were only found in two burials previously excavated at the Bainesse roadside settlement (graves 1730 and 1738; Wilson 2002a, 166 and 178). These were dated to between the late 2nd and early 4th centuries and show a similar pattern to those in Bainesse Cemetery, with no early or late examples.

The date distribution of inhumations found at *Cataractonium*, with most falling into the 4th century, means that any earlier pattern of pottery deposition into graves is unknown. However, this same bias serves to emphasise that, while pottery vessels were not considered appropriate grave goods at Bainesse during the later Roman period, they were relatively common in burials to the north of the Swale (Fig. 11.10). Even here, the observed spatial distribution was uneven. No placed vessels were found amongst the burials excavated to the west of Dere Street, at Brompton West (Chapter 4), or during the earlier investigations at Honey Pot Road and the 1978 watching brief (Wilson 2002a, 205–8; see Fig. 11.1). In contrast, to the east of Dere Street, many of the broadly contemporary burials found during a series of previous excavations along the north bank of the River Swale contained one or more pottery and glass vessels (Thompson 2002, 388–9; Speed 2004, 16; Eckardt *et al*. 2015).

Vessels deposited throughout the Roman period in graves at all these sites were predominantly suited for use as drinking vessels, cups, beakers and small jars (Fig. 11.11). Residual sherds found in the backfill of graves at Bainesse Cemetery and Scurragh House also followed this pattern, suggesting that above-ground rituals were similarly focused more on drinking rather than consumption of food. Some larger jars were found in cremation burials at Bainesse, Brough Park, Brompton West, Fort Bridge and Scurragh House. These were either placed on the pyre, used as funerary urns, or both. Few other vessel-types were represented. From the recent excavations, the only other vessel form interpreted as a grave good was an unguent jar, which was recovered from Bainesse Cemetery. Previous excavations have produced a greyware dish and ceramic flask from back-plot burials at Bainesse (Thompson 2002, 387) and a bowl from Hollow Banks Farm (Eckardt *et al*. 2015). Fragments of a face pot and a bowl found in a burial at Catterick in 1972 are likely to have been residual (Wilson and Wacher 2002, 135).

The pottery vessels incorporated into some graves were already old when buried. As noted in Chapter 5, where burials took place during the later 3rd to mid-4th centuries at Scurragh House, pottery vessels found in Graves **7830** and **7683** were of probable 2nd-century and 2nd- to 3rd-century types. At Bainesse, 2nd-century samian cups in Graves **36** and **161**, and a late 1st- to early 2nd-century jar in cremation Grave **269** also appeared to have been old when deposited. This phenomenon of depositing 'anachronistic' vessels follows a pattern observed across several other cemetery sites in Roman Britain (Biddulph 2006b, 26–8) and seems to have been relatively common in the cremation cemetery at Brougham, where 'antique' items were typically associated with adult individuals (Cool 2004, 451–2). Closer to Catterick, a cremation burial at Healam Bridge, which was radiocarbon dated

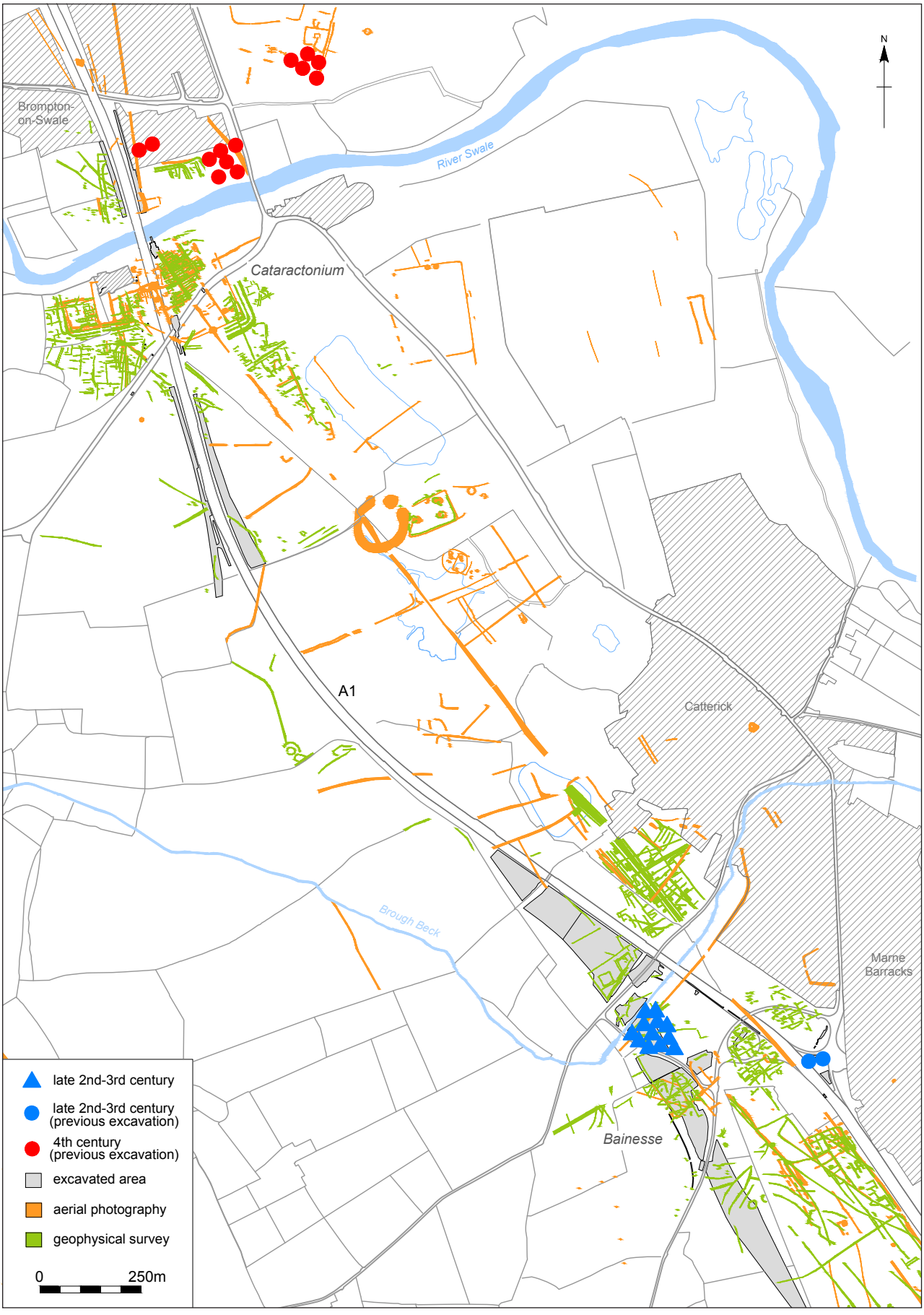


Figure 11.10: Roman inhumations with placed ceramic vessels at Cataractonium and Bainesse (all sites, all periods).

to the Late Roman or early post-Roman period, was accompanied by an 'antique' 2nd-century pottery vessel (Ambrey *et al*. 2017, 80).

A number of the placed vessels found within graves in Bainesse Cemetery exhibited ancient damage, most commonly missing rim sherds, and one of the body sherds of a fragmentary vessel deposited in cremation Grave **6782** at Brough Park had been perforated (see Chapter 7). Deliberate mutilation or 'killing' of pottery vessels has been noted at other cemetery sites, typically with pots displaying perforations through the body or base, or removal of a rim fragment (Biddulph 2006b, 31; Smith *et al*. 2018b, 259). It has been suggested that this was done to remove them from the realm of the living as part of the funerary ritual. Other vessels at Bainesse Cemetery had been deliberately smashed during the funeral, perhaps for a similar reason (Fig. 11.12).

Manufacturing defects were found in some of the vessels used as grave or pyre goods, suggesting that 'seconds' were occasionally used for this purpose, such as the vessel used as a cinerary urn in Grave **269** in Bainesse Cemetery (see Chapter 7). Patterns in the supply of pottery to some cemeteries elsewhere points to a communal mechanism for furnishing burials, perhaps through burial societies, either using newly purchased vessels or sometimes batches of 'seconds' (Biddulph 2005, 37; Savine 2017, 49–50; Weekes 2017a, 106), and this may account for their appearance in the burial record at Catterick.

Nailed footwear

Nailed footwear was placed in inhumations throughout the Roman period at Bainesse. It is thought that the dead were provided with or wore their shoes so that they were equipped for their journey into the underworld (Wardle 2000, 29). Examples have been found across most of the sites excavated in the Catterick area (both previous investigations and as part of the A1 scheme) and nailed footwear has been shown by Bayesian modelling to have been deposited throughout the period of use of Bainesse Cemetery (Hamilton, Chapter 10). Quensel-von-Kalben (2000, 218–19) examined 10 cemeteries, eight of which contained burials with a prevalence of hobnails ranging from 1% to 33%. The highest frequency of hobnailed shoes in burials was identified in Late Roman urban cemeteries (*ibid.*), in contrast to Bainesse Cemetery, where the provision of such items appears to have declined in the 4th century, albeit with occasional instances continuing into the 5th century (Croom, Chapter 8).

At Bainesse, 32 inhumation burials contained definitive evidence for nailed footwear, most of which (n=23; 71.9%) belonged to adults (10 males, two females and 11 unsexed), while six belonged to non-adults, of which three were young juveniles, two were adolescents and one was an older juvenile, with age unable to be determined for the remains in three further burials (Fig. 11.13). The majority of individuals buried with nailed footwear were interred extended supine.

Figure 11.11: Bainesse Cemetery: placed Trier black-slip beakers in Grave 219.

A number of other inhumations contained very small numbers of hobnails, which were considered insufficient to represent a pair of nailed shoes. Salway (1981, 705–6) has considered whether "on occasion a few nails may… have been placed in the grave as a symbolic gesture in place of an actual pair of boots", and this practice has been suggested as a possibility in two other graves containing small numbers of hobnails previously excavated at Bainesse (Mould 2002d, 109); equally, the nails could have been residual, as presumably was the single example from the grave at Honey Pot Road (Mould 2002e, 133). However, this explanation seems less likely in the more 'rural' setting of Bainesse Cemetery, where there was less evidence for accumulation of refuse and 'background' material that was likely to be residually incorporated in the backfilling of graves. Hence, the 'ritual' addition of these objects seems more plausible.

Although Cool (2002, 26) observed that "many inhabitants wore sensible nailed shoes" at *Cataractonium* and Bainesse, with hobnails found on virtually every Roman site that has been excavated in the area, Philpott's (1991, 167) survey has suggested that inhumation burials containing nailed footwear were uncommon in northern England other than at York and several other military sites. Until the A1 scheme excavations, both *Cataractonium* and Bainesse seemed to conform to this trend. However,

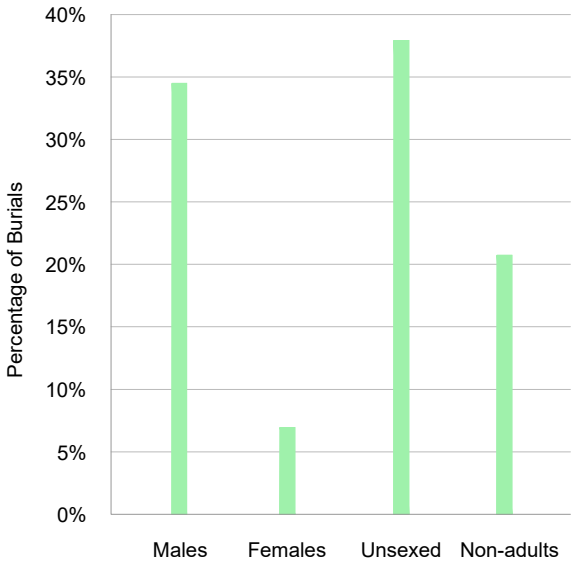


Figure 11.13: distribution of hobnails by age and sex for Bainesse Cemetery.

the newly expanded dataset provided by the A1 scheme presents a different and more complex picture.

Prior to the A1 scheme, no groups of hobnails considered large enough to represent complete footwear had been found in burials around *Cataractonium*; however, they are now represented in 10 of the 27 (37%) A1 scheme inhumation and cremation burials excavated at Brompton

Figure 11.12: Bainesse Cemetery: smashed ceramic vessels in Grave 229.

West and Brough Park. In Bainesse Cemetery, nailed footwear was a relatively common accompaniment in inhumations and has also been found nearby in one of the Cowstand Farm burials, which possibly formed part of the same cemetery (Taylor-Wilson 2001, 13). However, they were less common in back-plot inhumations at the Bainesse roadside settlement, only having convincingly been found in the grave of the suggested *gallus* (possible transgender individual; Thompson 2002, 386) and in Grave **13420** in Field 159A (see Chapter 3). Nailed footwear was relatively common in late 3rd- to early 4th-century burials at Scurragh House (Graves **10825**, **11808** and possibly **11813**) and in early to mid-4th-century back-plot inhumations at Brompton West (Graves **20159**, **20474**, **20621**, **20960** and possibly **20340**).

Compared to the widespread distribution of nailed footwear amongst the excavated burials at Bainesse and at Brompton West, both through space and time, there is a sharp contrast with the absence of such items within any of the 50 4th- to early 5th-century inhumations excavated by previous excavations to the east of Dere Street at *Cataractonium* (Thompson 2002, 387–90; Speed 2004, 16; Eckardt *et al*. 2015), or in eight certain or possible Late Roman inhumations at Catterick Racecourse (Wilson 2002a, 214–15; see Fig. 11.14). Together with evidence from the pattern of deposition of placed pottery vessels, this continues to suggest that the people buried in the north-eastern quadrant of *Cataractonium* (to the north of the Swale) were distinct from the wider population of the area at that time, at least in terms of their funerary rites. Despite a difference in the richness of the grave contents at Hollow Banks Farm, compared to the burials at Catterick Bridge and the Thomas Armstrong factory, the overall makeup of the grave assemblages across these sites was generally similar and, as discussed further below, a common 'local custom' ('opposed' pairs of burials) has previously been suggested to link the groups of people buried at Hollow Banks Farm and Catterick Bridge.

Coins

Coins were found associated with several Roman burials on the A1 scheme, including Graves **148**, **221** and **269**, plus an unstratified example thought likely to derive from a burial, at Bainesse Cemetery, and several from *Cataractonium*, namely in Graves **20417** and **20476** at Brompton West and Graves **6723**, **6782** and **6790** at Brough Park (Fig. 11.15). The few coins that were found in Bainesse Cemetery had all been pierced for suspension and have been interpreted as having an amuletic rather than monetary function. These are discussed below alongside other amuletic objects.

As discussed by Brickstock (Chapter 8), the stack of nine coins placed in the mouth of the mature adult male buried in Grave **20417** at Brompton West was of relatively low monetary value. Nevertheless, the sheer number of coins, compared to the one or two normally found placed within the deceased's mouth, is extremely unusual, with larger numbers of coins usually being found as 'purse hoards' placed in the grave rather than being so intimately associated with the corpse (Philpott 1991, 212–14).

By the 4th century, approximately 10% of the inhumations north of the river at *Cataractonium* contained coins (see Chapter 4), sometimes in large groups. In contrast, apart from the small number of examples pierced for suspension (and hence presumably no longer regarded as currency) found at Bainesse Cemetery, and a single example found in a back-plot burial by a previous excavation (Thompson 2002, 386), none at all have been found amongst the far larger number of burials now known from Bainesse, or from the smaller groups at Scurragh House and Healam Bridge. Similarly, a single coin was recovered from the 33 graves recently excavated at Binchester (Birbeck 2008; ASDU 2016b, 4), and only a single coin could be securely associated with a cremation burial at Brougham (Cool 2004, 381–2). In contrast, several coins were found by the Trentholme Drive cemetery excavations in York, including five in the mouths of skeletons (Wenham 1968, 87), perhaps suggesting that it was an 'urban' practice not followed in rural or military settlements. This contrast in the provision of coins applied to all phases of burial at *Cataractonium* and Bainesse, including cremation graves (see Chapter 8), and suggests that 'urban' practice was being followed at the small town (*Cataractonium*) but not at more 'rural' roadside settlements (Bainesse, Scurragh House and Healam Bridge). Although, as discussed by Brickstock (Chapter 8), provision of multiple coins in burials is not uncommon, the presence of three large groups of coins in burials in a small area at *Cataractonium* (at Hollow Banks Farm and at Brompton West) is unusual in the context of Britain (cf. Philpott 1991, 212–13), and may represent a localised funerary custom.

Examples of coins from graves dating throughout the Roman period at *Cataractonium*, including three (50%) of the late 2nd- to early 3rd-century cremation burials at Brough Park (Graves **6723**, **6782** and **6790**), suggest that provision of money for the afterlife may have been made throughout the Roman period. In contrast to the small cremation cemetery at Brough Park, and aside from the four coins pierced for suspension (and hence no longer used as units of currency) found at Bainesse Cemetery, only a single example is known from a grave across the whole of Bainesse (from the previous excavation at CfA Site 46, grave 426; Thompson 2002, 386). The burials

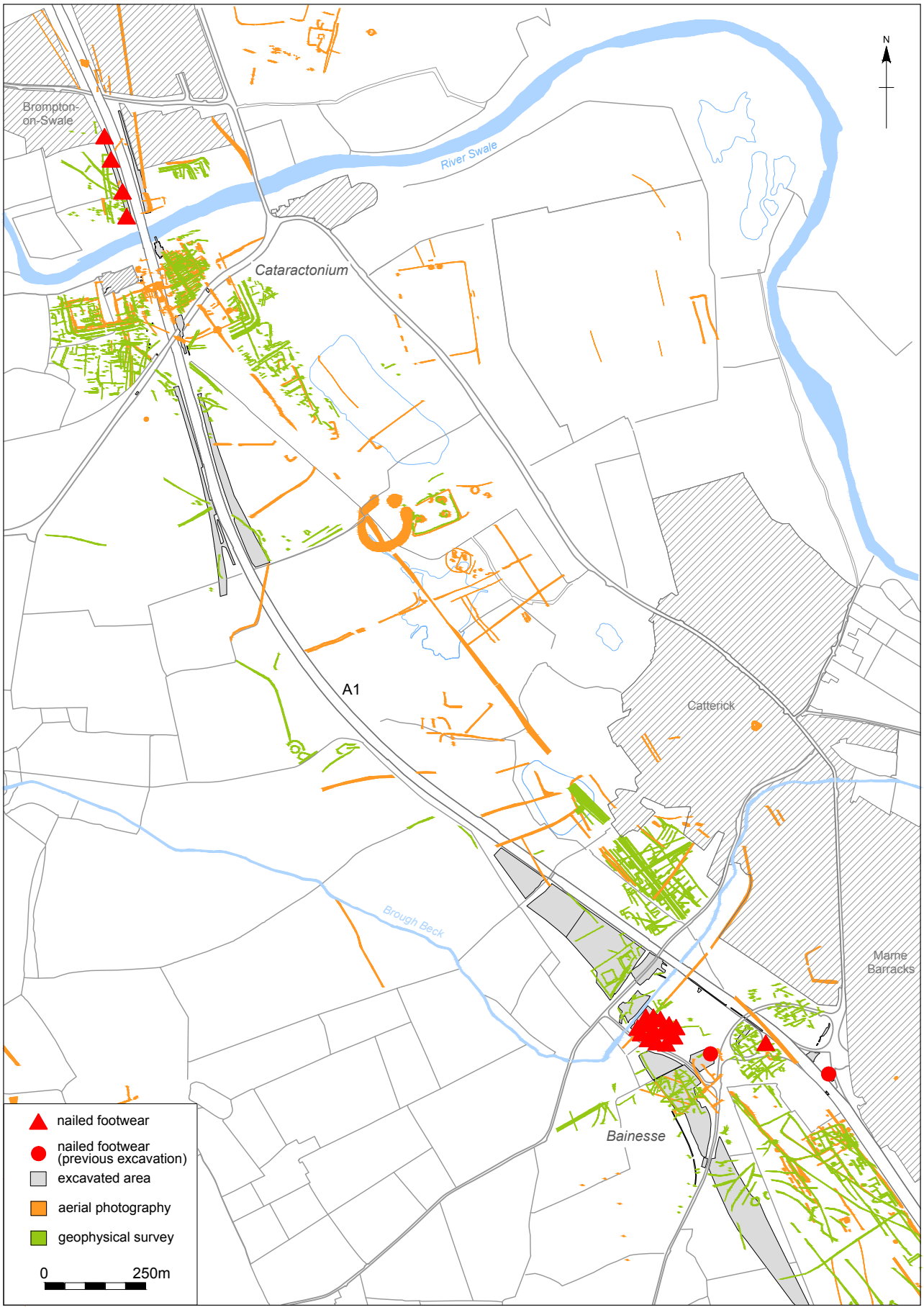


Figure 11.14: inhumations containing nailed footwear at Cataractonium and Bainesse (all sites, all periods).

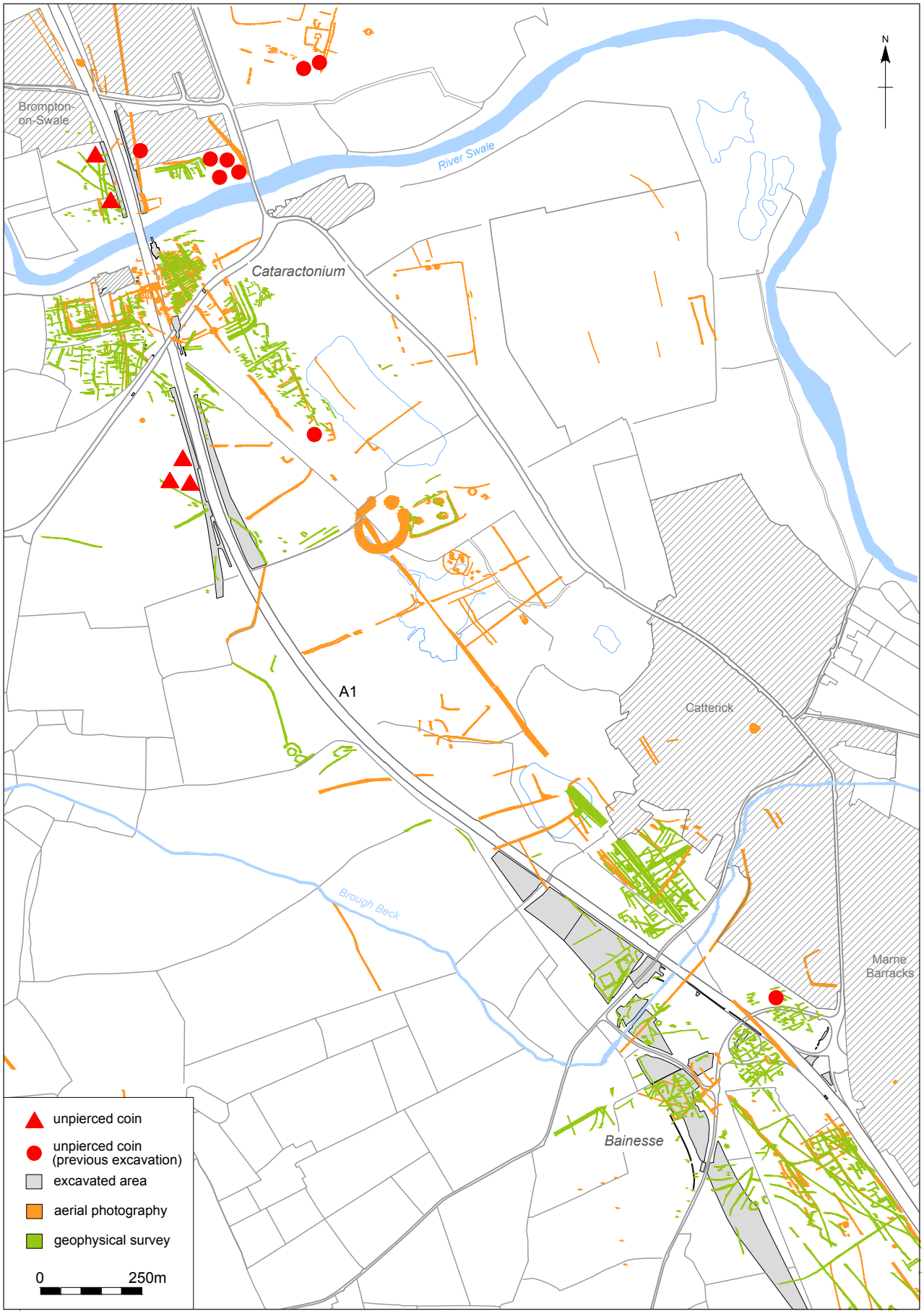


Figure 11.15: Roman inhumations and cremation burials containing unpierced coins at Cataractonium and Bainesse (all sites, all periods).

found to date at Bainesse span at least the 2nd to mid-5th centuries, and hence this represents a long-standing difference in burial behaviour between the two settlement areas. The patterns of coin loss in non-funerary contexts at Bainesse during previous excavations were not dissimilar to those at *Cataractonium* (Brickstock 2007, 78), and it is clear that the inhabitants at both settlements had similar access to coin supply. This implies that there was a local custom at Bainesse, the expression of which was omission of coinage within burials, which transcended any smaller-scale variation in funerary rites (whether familial, professional or based on origin).

Brooches

As discussed above, brooches have rarely been found in burials in the Catterick area, despite being relatively common finds in non-grave contexts. Excluding the penannular brooch found in Grave **20476** at Brompton West, which had been converted to an alternative use, only six brooches have to date been found during excavation of any of the Roman graves in the Catterick area. Apart from a continental P-shaped brooch found in cremation Grave **272** at Bainesse Cemetery, the other examples are all crossbow brooches and have been exclusively found during earlier excavations on the north bank of the Swale at both Catterick Bridge and Hollow Banks Farm, which are only 300m apart.

Bracelets and anklets

A total of 14 bracelets/armlets and anklets were found in a total of 10 inhumation graves across the A1 scheme (Chapter 8). These included Graves **16**, **35**, **119**, **130**, **149**, **194**, **198** and **235** at Bainesse Cemetery, Grave **11808** at Scurragh House and Grave **20198** at Brompton West. Of the eight individuals accompanied by bracelets/armlets, two were adult females, one was a possible adult male, one was an unsexed adult, two were children aged 3–5, and in one case age and sex could not be determined. Most bracelets were worn, except in the cases of the possible adult male and one of the children, both of whom were interred at Bainesse Cemetery (Graves **194** and **198**).

Anklets were found in four inhumations, Graves **16**, **35** and **119** at Bainesse Cemetery and Grave **11808** at Scurragh House. Of these individuals, two were adult females and the others were unsexed adults. The bracelets and anklets from the A1 scheme have been extensively discussed in Chapter 8.

Amuletic objects

Amulets could take many forms and in Roman society were associated with the desire to protect someone or to provide luck. The A1 scheme excavations recorded a number of burials where objects, or groups of objects, can be interpreted as having had an amuletic role. These include inhumation Graves **82**, **103**, **148**, **150**, **180**, **203**, **221 235** and cremation Grave **269** at Bainesse, and Grave **20476** at Brompton West. Previous excavations at Catterick have produced a few similar artefacts, including the five phallic pendants associated with an infant burial at *Cataractonium* (Wilson and Wacher 2002, 74). Other objects of potential 'magical' significance found by previous excavations have included the suite of jet jewellery associated with the *gallus* burial at Bainesse (CfA Site 46, grave 951; Wilson 2002a, 176–8), two pebbles found placed in the mouth of the same individual, and an animal bone placed across the mouth of an adolescent at the same site (grave 1740; Wilson 2002a, 178–80). At Catterick Bridge, a stone altar and the skeleton of a small bird might also fall into this category (graves 679 and 2186; Wilson 2002a, 201–2).

Items found either singly or in groups by the A1 scheme excavations that are considered likely to have had an amulet role include the two *bullae* (Graves **103** and **150**), one or possibly two phallic pendants (Graves **180** and **203**) and the large lead medallion (Grave **148**) from Bainesse Cemetery, plus the large group of copper-alloy objects found in Grave **20476** at Brompton West.

Given the presence of possible amuletic objects alongside beads in four graves at Bainesse (Graves **103**, **180**, **203** and **221**), something which has also been recorded in burials elsewhere (Philpott 1991, 162), it may be that beads should also be considered, at least in some cases, as having had a similar amuletic function in their own right (Puttock 2002, 94).

Coins found in Graves **148**, **221**, and **269** at Bainesse Cemetery, together with an unstratified example thought likely to derive from a disturbed burial, had all been pierced for suspension and presumably had ceased to be regarded as currency. Pierced coins are uncommon in Romano-British graves (Philpott 1991, 161; Brickstock, Chapter 8) and most have been found in urban contexts in southern England, although occasional examples have been found elsewhere, such as a republican *denarius* in the Trentholme Drive cemetery in York (Wenham 1968, 87–9). Such coins are often found as part of a group of amuletic objects or could be suspended from strings of beads (Philpott 1991, 162). Grave **148** also contained a canid tooth with copper staining, which is suggested to have originally been suspended. Pierced dog teeth are also rare in Romano-British burials, with only three examples cited by Philpott (1991, 162), two of which were accompanied by other objects, including pierced coins, echoing the objects in Grave **148** at Bainesse Cemetery. Philpott (*ibid.*) has suggested that deposition

of pierced coins and pierced dog teeth was intrusive to Roman Britain and of continental origin, possibly explaining their continued and increased incidence in burials during the early Anglo-Saxon period, while pierced coins continued to be deposited in Late Antique Christian burials in Europe (e.g. Del Moro 2000, 259).

As discussed in Chapter 8, several of the Roman burials (both cremation burials and inhumations) across the A1 scheme included large iron nails that did not appear to have formed part of the grave furniture and had apparently been deliberately placed within the grave. This behaviour has been noted elsewhere in the Empire. At Vagnari in southern Italy, for instance, they formed one of the most common categories of grave good in inhumations, where they were often bent and occurred more commonly in male graves (Prowse 2016, 223), although such an association with sex could not be determined for the examples from the A1 scheme.

Stone objects

The presence of broken stone objects in graves at Bainesse Cemetery, including a whetstone in Grave **195** and a quern in Grave **202**, as well as a complete whetstone or polisher in Grave **208**, was possibly deliberate, given the lack of evidence for refuse disposal in the cemetery area and its distance from areas of habitation. Unfortunately, such objects have often been regarded as incidental residual inclusions in the past, and as a result are not normally presented in catalogues of grave goods, preventing a full comparison to other sites from being made, although a quernstone had possibly been deliberately placed in a Late Roman burial at Wattle Syke in West Yorkshire (Roberts *et al*. 2013, 296).

Animal remains

The only unburnt animal remains found within a grave during the A1 scheme that was considered to represent a deliberate offering was the partial galliform found in Grave **240** in Bainesse Cemetery. Another galliform was represented in the *bustum*-type burial (Grave **6790**) at Brough Park (see Wright, Chapter 9), although neither could be identified to species level. However, evidence from other sites suggests that these would most likely be the remains of domestic fowl (i.e. chicken; Maltby *et al*. 2018, 1004). Nationally, the inclusion of galliform remains is common in burials during both the Iron Age and Roman period (Philpott 1991).

Following the suggestion above that the residual pottery (mainly from vessels suited to drinking rather than eating) found within grave fills in Bainesse Cemetery derived primarily from funeral related activities, the near-absence of unburnt animal bones in the same deposits is likely to be similarly significant. Residual animal bone (a cattle mandible and teeth) was recovered from a single grave fill (Grave **92**), in contrast to the back-plot burials a short distance away in Fields 163E and 159A, which each contained moderate quantities of such material (Wright, Chapter 9). This supports the suggestion that Bainesse Cemetery was kept clear of domestic refuse and further indicates either that animal-based foods did not feature heavily in such funerary celebrations, or that prepared meals, where any meat was already removed from the bone, were brought to the site.

Plant remains

A wide range of carbonised plant remains were recovered from burials across the A1 scheme (Baines, Chapter 9). Several of the Roman cremation burials contained carbonised plant remains suggested to represent either food offerings or flowers added to the pyre. The charred bog beans found in the *bustum*-type burial (Grave **6790**) at Brough Park may have been harvested from the former streamside a short distance to the south and may represent a white-flowered wreath or pyre decoration, as may also be the case for the *Galium odoratum* seeds found in cremation Grave **20106** at Brompton West.

Considering the observations above concerning the apparent lack of Roman refuse accumulation within the cemetery area at Bainesse, it seems likely that some or all the carbonised plant remains recovered from inhumation grave fills in the cemetery are likely to have derived from the same source as the calcined human and animal bones found with them (i.e. pyres). This adds further insight into the range of material that could derive from cremation funerals, whether as deliberate offerings or incidental inclusions. Charred foodstuffs found in graves in the cemetery included a range of cereals (although some or all of these could have derived from tinder used to light pyres), pulses (lentils, peas and broad beans), blackberry, and a grape pip.

A reminder of the former presence of other, non-charred, plant materials deposited within graves, but otherwise long since lost due to decay, is provided by the fragment of club moss string found in Grave **203** at Bainesse (Gleba *et al*. 2017). This had been preserved due to its proximity to the copper-alloy beads that had been strung onto it. Mineralised remains of fabrics have been found preserved in association with metal objects in graves previously excavated in the Catterick area, including Anglian burials at Hollow Banks Farm and Grave **217** in the Bainesse Cemetery (Walton Rogers 2004; 2012). However, mineralised organic remains found by the A1 scheme excavations have been limited to this example of string and the remains of coffin-planks adhering to coffin nails (see Chapters 8 and 9).

Comparisons with Roman Britain

Several classes of object were unusually common in the burials excavated to date at *Cataractonium*, Bainesse and their hinterland, compared to the current suite of evidence for the rest of Roman Britain. The presence of crossbow brooches and belt sets in a number of the graves previously excavated at Hollow Banks Farm (the second largest group of such burials to have been found nationally, after those in the Lankhills cemetery in Winchester) has been discussed elsewhere (e.g. Cool 2010b, 36; Eckardt *et al*. 2015), highlighting the rarity of such burials in Britain and their likely 'continental' associations. The anklets recovered to date from previous excavations at Bainesse (CfA Site 46) and Catterick Bridge (CfA Site 240), together with the new examples from the Bainesse Cemetery and Scurragh House, represent nearly half of the examples known nationally, and the only examples from the northern half of the province (see Chapter 8, Table 8.2). This grouping suggests a fashion local to the Catterick area, although it should be noted that the example from CfA Site 46 was from a burial suggested to have been of a *gallus* and it is thought unlikely that this individual originated from the local area (Cool 2002, 41–2; Chenery *et al*. 2011, 1533–4), so it could be that the fashion itself, or the people using it, came from elsewhere.

Amuletic objects are relatively rare in Roman burials from Britain (Philpott 1991, 161–4), yet have been found in several burials at *Cataractonium* and Bainesse, which suggests an unusual amount of evidence for spirituality or superstition in the area. Very few *bullae* are known from Britain (only five other examples are listed by Croom, Chapter 8), so the two examples found in Bainesse Cemetery (Graves **103** and **150**) are a significant addition to the corpus of evidence. These also provide the (admittedly sparse) distribution of these objects a distinct northern bias, with five now known from Bainesse (n=2), York (n=2) and South Shields, and only two from the south and west at Colchester and Caerleon (see Chapter 8 and references therein). Phallic pendants are also uncommon in British burials (Philpott 1991, 161), yet apparently popular in the Catterick area. In addition to the two examples found in Bainesse Cemetery (Graves **180** and **203**), another six have been found previously at *Cataractonium*, with five associated with a baby burial and the other found separately nearby (Wilson and Wacher 2002, 74). The pierced coins and the dog tooth apparently mounted for suspension found at Bainesse Cemetery are also rare finds, while the large lead medallion from Grave **148** has no close parallels (Croom, Chapter 8).

IDENTITY

There are several lines of evidence that can be drawn together to consider the recognition of identity through the study and interpretation of the dead, their material culture and associated environmental remains. Individual identity is the product of multiple factors and can vary depending upon different situations (Gardner 2007). Identity in life may be demonstrated in many ways; some may be an intrinsic part of a person's appearance, such as height, age, sex, disability, eye and hair colour and skin tone. However, identity can also be demonstrated through personal modification, clothing, adornment and defined behaviours and skills. External factors may also impact on how a person demonstrates or is able to demonstrate their individual identity, including season, resource availability and social acceptance or tolerance. The archaeological and historical record can only provide evidence for a fraction of the traits that would come together to form individual or group identity.

Gardner's (2007) study of identity in the context of attempting to interpret archaeological evidence for the military in 4th-century Roman Britain used theoretical methods, drawn from a range of disciplines. He used this framework to examine the archaeological record, which suggests a blurring of the distinction in material terms between what was 'military' and what was 'civilian' in this period. The complexity of potential factors affecting construction of a person's identity, set against a period where the institution of the Roman army was becoming more diverse and localised, and hence in many ways less archaeologically visible, led him to conclude that "…the social world of the late Roman Empire is too complex to be satisfactorily represented by…a simplistic use of category labels" (*ibid*., 261). However, there is ample evidence that there were significant groups of trained and armed men who were based in Britain during this period. Upon command from a remote authority, they were able to come together as members of a named regiment, march to a specific location, sometimes in another part of the Empire, and perform effectively on the battlefield (Collins 2012, 37). These individuals are still likely to have been highly visible and known to the wider population, even when not armed or engaged in martial activities, such as training. Their primary identity, at least to other members of society who did not associate them with another role, such as a relative, would have been 'soldier'. Conversely, an individual such as the suggested *gallus* found at Bainesse (CfA Site 46), who would have been attired in female clothing and jewellery in a manner contrasting sharply to the culture of overt masculinity described by classical authors amongst Late Roman soldiers (Cool 2002, 41-2; Gardner 2007, 231), would have been immediately recognisable as having a non-

military (i.e. 'civilian') identity.

Can or should we try to establish identity based on the evidence recovered from burials? Despite the conclusion put forward by Gardner (2007), the following discussion takes the more optimistic view that a form of identity for the deceased can, at least in some cases, be suggested based on the archaeological evidence. This has been demonstrated previously at Catterick in the case of the Bainesse *gallus* or the group of individuals excavated at Hollow Banks Farm. The treatment of the dead is unlikely to have been defined by the individual being interred, but rather the living individuals and/or group(s), such as family or a burial society, involved in the ritual reaction to their death. The vast number of variables demonstrated in burial practices across Roman Britain, including, but by no means limited to, inhumation versus cremation, grave orientation, body position, coffin versus cist versus shroud versus uncontained, adornment, etc., are all influenced, albeit to an unknown and varying degree, by those involved in or leading the burial rites, as well as the external factors outlined above.

At least by the later Roman period, which is well-represented in the A1 scheme burial population, fashions and trends in decoration and adornment are likely to have been reflected in the material selected to accompany the dead to the afterlife. For example, in life, the later Roman army used decoration on tunics and cloaks, including elaborate borders, embroidery and tapestry appliqués, and ornamentation on weaponry and armour (Coulston 2013, 466 and 481). Other objects could be brightly painted, such as shields, and intended to be highly visible (James 2004, plates 6–10; Conyard 2013, 533).

Interpreting the contents of a burial in terms of identity is further compounded by the taphonomic processes discussed earlier in this chapter. Where there have been exceptional preservation conditions, the archaeological evidence makes it clear that Roman burials frequently (if not usually) included organic materials that do not normally survive the burial environment, such as elaborate fabrics (clothing and burial-wrappings), incense, scented oils, and other equipment, and plant remains, including flowers and garlands (e.g. Brettell *et al*. 2015; Pearce 2017, 10). The body could also be adorned in other ways, such as with an elaborate hairstyle or cosmetics, for which direct evidence on the A1 scheme, and throughout the Roman Empire, is scant. Occasionally, organic foodstuffs and other materials can be preserved, as for instance hazelnuts, legume pods, other unidentified plant remains and bark (possibly from containers) found with the Roman burials previously excavated at Hollow Banks Farm (Cotton 2002, 11–12). The durable ornaments (metal, glass or stone) typically found in burials thus "complement a presentation primarily created by other means" (Pearce 2013a, 458). The problems of identifying such perishable elements of the funeral are compounded in the case of cremation burials (Pearce 2015b, 228). However, charring can serve to preserve some plant remains, such as the *Galium odoratum* seeds found in cremation Grave **20106** at Brompton West, which perhaps represent a sweet-smelling white-flowered funerary wreath (Baines, Chapter 9).

Excavations of Roman and early medieval burials have resulted in the production of data in a variety of, often incompatible, formats and quality (see Roberts and Cox 2003, 26–30; Redfern *et al*. 2018). This becomes an issue when attempting to interpret new findings in the context of contemporary funerary practices in Britain and beyond. As excavation, post-excavation and publication are increasingly governed by national guidelines and standards (e.g. APABE 2013; 2015; Mays 2017; Mitchell and Brickley 2017), the situation continually improves; however, there is much work to be undertaken if existing and future archives of information are to be standardised to allow full and direct comparisons.

INDIVIDUAL IDENTITY

Sex could not be determined in a large proportion of the skeletons on the A1 scheme, particularly at Bainesse (Fig. 11.16). Males dominated the burial population at Bainesse and *Cataractonium*, while sex could not be determined for the burials at Scurragh House or Scotch Corner. The proportion of unsexed adults at Bainesse was so large that, had it been possible to determine the sex of these individuals, the proportions of males and females in the population could have been drastically altered. In contrast, even if all the unsexed adults from *Cataractonium* had been female, males would have still outnumbered them, suggesting that something other than the limits of the osteological analysis was affecting this imbalance.

Similarly, the poor survival of skeletal material, particularly at Bainesse and Scurragh House, limits interpretation of the demographic profile of the burial population. Where data could be obtained, a quarter (24.9%) of the A1 population were non-adults which, as described in Chapter 6, compares well with other Romano-British cemeteries. However, at *Cataractonium* the majority of non-adult burials were those of neonates, found in 'domestic' contexts, whereas those in Bainesse cemetery were mainly young juveniles (1–6 years), suggesting a different pattern of burial for the two age groups. For adults (see Table 6.66), the greatest mortality for both males and females occurred in the young middle adult age group (26–35 years), followed by the mature

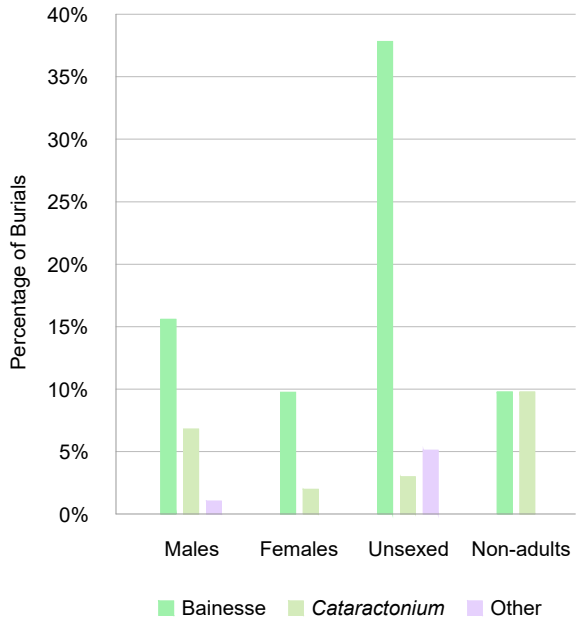


Figure 11.16: sex proportions of simple inhumations at all Roman sites on the A1 scheme.

adult category (46+ years) for females and the old middle and mature adult categories (36+ years) for males. Rather fewer old middle adult females and young adults (18–25 years) of either sex were recorded.

Redfern and DeWitte (2011b) suggested that large scale movement of people, together with hazardous occupations, such as working for the military, took its toll on the health of Roman adult males. This is also perhaps reflected in the adult age profile seen at the A1, with the majority of individuals falling into the young middle adult (26–35 years) age group, especially so for males, resulting in a shorter than average life expectancy. However, a more recent and larger study suggests that, in the case of migration, females had a higher mortality risk (Redfern *et al*. 2018, 32).

The Roman population at the A1 showed evidence for stress experienced during childhood. This was seen in the elevated prevalence of dental and skeletal lesions associated with episodes of illness and/or malnutrition during the growth period (e.g. dental enamel hypoplasia and cribra orbitalia), as well as a shorter average living height for males and females. Such manifestations of poor health experienced during childhood may have stemmed from inadequate infant feeding practices or exposure to an increased pathogen load caused by population migration (Gowland and Redfern 2010). While females generally exhibited higher prevalence rates of these lesions, it is possible that they were simply more likely to survive episodes of health stress, whereas males were less likely to survive to adulthood when faced with periods of malnutrition or disease.

There is considerable evidence for potential sex-related differences in activity seen at the A1, with a greater number of females affected by chronic sinusitis than males, perhaps as a result of household pollution and cooking over fires. Males, on the other hand, demonstrated more inflammatory lesions on the shins, which may be related to a military lifestyle. However, the overall prevalence of non-specific infectious disease at the A1 corresponded with the Roman norm. The distribution of age-related wear and tear (related to joint disease) on the skeleton also differed between males and females, suggestive of different activities being undertaken that led to an increased strain on these joints.

The rate of fractures was generally low, with majority being located in the extremities or shins. These most likely resulted from accidents.

Dental health was better than that usually seen in other Roman skeletal assemblages, with lower than average prevalence rates of cavities and dental plaque build-up. Males demonstrated slightly higher rates of dental plaque than females, which may suggest that their diet encompassed more protein.

Occupation

The Military

Cremation remained popular with the army in the north of the province into the 4th century (Petts 2009, 163; McKinley 2015), persisting long after it had ceased to be the dominant funerary rite on the continent (Philpott 1991; Mattingly 2006), and appears to represent a distinctive 'northern military tradition' (Caruana 2004, 154). This could be highly varied but could include *busta* and evidence for use of a bier (in the form of either remains of the bier itself or decorated bone veneer; Petts 2009, 163), both of which were recorded in cremation burials on the A1 scheme. As discussed above, it seems likely that many of the cremation burials found on the A1 scheme, particularly those found in groups at Brough Park and Bainesse Cemetery, and possibly those at Scurragh House, represent members of the military community, whether soldiers, their families or other dependents. In this context, although the cremation burial at Brompton West containing decorated bone veneer from a funeral bier was that of an adolescent, Croom (Chapter 8) notes that such material usually has a military association in northern England.

As discussed in Chapter 4, a group of cremation burials at Brough Park appeared to have been located in relation to a road running south-east from the southern gateway of the Antonine fort at *Cataractonium* towards Dere Street, in a location typical for cemeteries associated with Roman forts across northern England. The dating

of the burials to the later 2nd century is consistent with this interpretation. Unfortunately, no epigraphic or documentary record survives to indicate the garrison of the fort at this (or any other) dates, although such information may be found in the future.

The presence of a significant assemblage of knee-brooches and gold-in-glass beads, which were found in late 2nd-century contexts during previous excavations at *Cataractonium* and Bainesse, together with an assemblage of military metalwork from Bainesse dated to the later 2nd to 3rd century, led Cool (2007) to suggest the arrival in the area of a new military unit, possibly originating on the Rhine or Danube frontier. As discussed in Chapter 3, these dates are earlier than the group of potentially military cremation burials found at Bainesse Cemetery but do support the suggestion that they represent a military presence in the roadside settlement during the mid-Roman period. The high proportion of later Roman cremation burials at Scurragh House suggests a possible military connection with the site, However, there is no evidence for any military installation at Scurragh House in the 3rd or 4th century, so who exactly were the people buried there? As described in Chapter 5, two altars dedicated to Mars Condates and Mars (Tomlin 2016) were found in a well and a watering hole on the Scurragh House site. The dedication to Mars Condates is unusual, with only four other attested occurrences, all from Britain, and has a strongly military and north-eastern distribution, with examples found near the forts at Bowes, Piercebridge and Chester-le-Street (RIB 731, 1024 and 1045; Collingwood and Wright 1965). An outlier can be found at the fort at Cramond on the Antonine Wall (RIB III 3500; Tomlin *et al*. 2009), but no examples are known along Hadrian's Wall. None of the dedications were closely dated. Although the record of military units garrisoning these forts is mainly derived from epigraphic sources and is generally incomplete, there is no evidence that any single auxiliary unit was present at more than one of these locations. However, construction work was frequently carried out by legionary detachments and these are attested to at most of the sites (the exception being Bowes). This was most often done by members of Legio II Augusta, although Legio VI Victrix is attested to at Piercebridge and a tile with a Legio VI Victrix stamp has also been found in Brompton-on-Swale at the northern edge of *Cataractonium* (RIB 2460.50 (ii); Collingwood and Wright 1992, 158). Attonius Quintianus, who set up the altar to Mars Condates found near Piercebridge, described himself as a *mensor* (surveyor), and *mensores* were attached to each legion (Dilke 1962), which then provided specialist services to other units. The likely military connection between these sites is therefore of legionnary rather than auxiliary origin and, given that the Mars Condates dedication has not been attested to elsewhere in Britain, it may have been associated with members of Legio VI Victrix based in York rather than legions based further south. It is conceivable that one or more veterans of this legion settled at Scurragh House upon discharge and brought their beliefs with them. However, provision of each of the plots at Scurragh House with separate water holes and wells (Ross and Ross forthcoming) implies the presence of separate and independent households. Therefore, the altars, which were found in different plots to the burials, do not provide any direct evidence for the identity of the excavated individuals.

Of the range of grave goods recovered from the Roman burials found to date in the Catterick area (from both the A1 scheme and previous excavations), only two groups of material, brooches and belt-sets, may suggest a military background for the deceased. In the Early Roman period, deposition of brooches in burials was relatively common in southern and central England, but decreased through time (Philpott 1991, 128–9 and 136–9). However, in northern England, there are only a few examples from burials in York and hardly any examples are known from further north (Wenham 1968, 51; Philpott 1991, figs. 9 and 26). In this respect, provision of brooches in burials at Catterick accords with the regional norm for the northern military zone. During the Roman period, very few individuals were buried with a brooch in the Catterick area. Where they are found, these can all be suggested to be within 'military' burials, including the continental P-shaped brooch from cremation Grave **272** at Bainesse Cemetery (Chapter 8), a crossbow brooch from a 3rd- or 4th-century cremation burial at Catterick Bridge (Thompson 2002, 389) and four more crossbow brooches from 4th- century inhumation burials at Hollow Banks Farm (Eckardt *et al*. 2015, 196–9). The Hollow Banks Farm group, where four of 15 (27%) burials included crossbow brooches, is unique in Britain, but can be broadly paralleled in cemeteries in mainland Europe, such as Oudenburg in Belgium where they were found in 32 of 216 (15%) graves. These dated from the second half of the 4th and early 5th centuries, were associated with the nearby fortress, and were considered to represent members of the military garrison and their families (Mertens 1977, 60–2). There were other similarities between the cemeteries at Hollow Banks and Oudenburg, including only a small proportion of graves considered to contain females, burial in an extended supine position often in a nailed coffin, the presence of belt sets, coins (including one large group of 88 at Oudenburg), pottery and glass vessels, and a range of other grave goods, placing of grave goods either inside or outside the coffin, and items of personal adornment

either worn or placed by the feet. At both cemeteries, there was also a proportion of unfurnished graves. Some of the population buried at Oudenburg had clear links with Roman Britain, with many of the bracelets found in the presumably female graves being of British insular types (Swift 2000, 178–9).

In contrast, the penannular brooch (Cat. no. 72) included in Grave **20476** at Brompton West had been reused as a suspension loop for a group of objects suggested to be of amuletic or religious significance and is suggested to have lost its original function. No brooches were found in burials at Scurragh House or Healam Bridge, and at both sites there is no evidence for any significant military presence (Ambrey *et al*. 2017, 134). Slightly further afield, only a single trumpet brooch was found from over 350 burials during the excavations at Trentholme Drive, York (Wenham 1968, 51). The only example of a brooch in an inhumation from the North-East recorded by Philpott (1991, fig. 26) was a crossbow brooch from Corbridge; another example of this type has recently been found in the cemetery at Binchester (ASDU 2016b, 4) and three more are known from burials at Malton (Eagles 1979, 66 and figs. 107–9). Brooches are common in non-funerary contexts at most of these sites (e.g. Mackreth 2010), except for Scurragh House where the presumed settlement beyond the back-plot areas was not investigated. Webb (2011, 85) has noted a similar pattern across northern England, with brooches making up a very small percentage of the range of personal ornaments found in burials compared to their presence on other types of site (military, *vici*, town, villa, rural and cave deposits). Nationally, brooches were not particularly favoured as grave goods, and the Roman Rural Settlement Project recorded them in only c.0.7% of Late Roman period burials (or c.3% of furnished graves; Smith *et al*. 2018b, 269). Therefore, the omission of brooches as grave goods appears to have been the norm. Their more common presence in 'military' burials in the later Roman period, both in northern England and elsewhere, such as at Lankhills, Winchester, often accompanied by belt-sets, which are also considered to represent a mark of rank at this period (Eckardt *et al*. 2015, 203), suggests a funerary tradition reflecting professional (military vs. non-military) status.

Non-Military occupations

Although the non-military Roman population at Catterick must have pursued a wide range of occupations, this was generally not reflected in the excavated burials. A previously excavated burial at Bainesse has been suggested to represent a eunuch acolyte (*gallus*) of the goddess Cybele based on the suite of jewellery buried with them (Cool 2002, 41–2). The potential instances of non-military occupations from the A1 scheme excavations are, however, more prosaic.

In the case of back-plot burials, which are considered to probably be representative of households occupying the adjacent street-front premises, the function of those premises (if it can be determined) is likely to provide a direct indication of the occupation of the inhabitants. As an example, burials within an enclosed (and presumably non-public) area behind a bakery would most probably be those of successive bakers, their families and any servants or slaves. Due to the complex and piecemeal history of excavations at Catterick, complete occupation plots, including street-front buildings and the range of back-plot areas (including burials), have yet to be excavated in the area. However, the excavation at Brompton East of an extensive area of street-frontage on the west side of Dere Street was complemented by additional excavation of what were presumably corresponding back-plot areas at Brompton West, although these were separated by the width of the modern A1. This holds out the prospect, once analysis of the excavation archives is completed (Ross and Ross forthcoming), that future research may be able to reveal the occupations of some of the people buried at Brompton West.

For the moment, however, evidence for non-military occupations remains scarce amongst the funerary assemblage from Catterick. The two fish hooks found in Graves **20340** and **20532** at Brompton West may represent the profession of those buried there or instead were tokens of a shared pastime, had been used to fasten shrouds or had some other, possibly ritual, meaning. From the human remains, a tenuous indication of possible profession is represented by the mature adult female buried in Grave **186** at Bainesse Cemetery who may have suffered from *ischial bursitis*, which suggests that they may have experienced long periods of immobility (see Chapter 6) that could be indicative of a seated profession or, alternatively, a disability.

Burial location (cemetery vs backplot)

The Roman burials identified by both the A1 scheme and previous excavations in the Catterick area were found in a variety of locations relative to the Roman settlements and the road(s) connecting them (Fig. 11.1), and it is clear that the general pattern of burial in the area during the Roman period was complex. However, it should be kept in mind that only a relatively small random sample of the area surrounding the settlements has been investigated to date. Currently, little to nothing is known about what occurred further away from Dere Street, particularly to the east of the Roman town and to the south and west of the fort at *Cataractonium*. At the very least, the military communities associated with the succession of forts at

Cataractonium are likely to have established one or more cemeteries nearby, presumably of considerably greater extent than the small group of cremation burials found at Brough Park (Chapter 4). Equally, it seems unlikely that most of the dead from the civilian settlement at *Cataractonium* would have been transported 2km to the cemetery at Bainesse when there was sufficient land available for a cemetery closer to the Roman town. As a result, there is considerable scope for future research of the spatial distribution of Roman burial practice in the Catterick area.

The various Roman burial areas investigated as part of the A1 scheme (Fig. 11.1) have been divided, as defined in Chapter 1, into a large cemetery (at Bainesse), a small cemetery (at Brough Park), back-plot burials (at Brompton West, Bainesse Fields 159A and 163E, Scurragh House, and perhaps Scotch Corner), and 'isolated' or 'rural' burials (at Low Street and the presumed truncated grave at Bainesse Field 157). To these can be added the single neonate burials found at Brompton West and Fort Bridge, and the cremation burial found at the latter site, which had probably been placed at the periphery of the contemporary domestic areas of *Cataractonium*. This mixture of different types of burial location is not uncommon within and around small towns in Roman Britain (Esmonde Cleary 2000, 129).

Prior to the recent excavations, most Roman burials found at *Cataractonium* and around a third of those at Bainesse had been dated to the 4th century, and probably extended into the 5th century (or later) at both locations. For many of the 'earlier' Roman burials excavated at Bainesse, only a *terminus post quem* could be suggested and, in reality, some of these may date later. At two sites where most of the previously excavated burials had been found, Bainesse Site 46 and Catterick Bridge Site 240, the excavations explored the full depth of stratigraphic deposits. As a result, this apparent chronology (i.e. the lack of earlier burials) was not the result of a bias towards the excavation of later Roman deposits, which has been noted for other Catterick sites where a lack of complete excavation has left us "ill-informed as to the character, extent and location of early occupation" (Wilson 2002b, 454). Instead, it presumably reflects a spatial bias in burial location during the later Roman period, something which the A1 scheme excavations have begun to redress.

Bainesse Cemetery

The excavated part of Bainesse Cemetery lay 2km south of *Cataractonium* and to the west of Dere Street. It was located on an east-facing slope in an elevated position overlooking the nearby and contemporary Bainesse roadside settlement and would have been clearly visible from it and, where not blocked by roadside buildings, to those passing along Dere Street. Such a choice of location is comparable to that suggested for other Roman cemeteries (e.g. Cool 2004, 25; Booth *et al*. 2010, 532–3). It was important for these communal cemetery areas to be seen, and the dead formed an integral part of the layout of the settlement (Esmonde Cleary 2000, 136). Typically, the monuments containing higher status burials were located in the most visible locations, for instance close to main roads, such as the mausolea at High Rochester and Shorden Brae, Corbridge (Bruce 1867, 330; Gillam and Daniels 1961).

Small cemeteries

The small cemetery at Brough Park shared similarities in location with that at Hollow Banks Farm (Eckardt *et al*. 2015, 194–6). Both lay in what were, as far as can be determined, open areas. This contrasts with the local Late Iron Age and Roman 'rural' traditions, as well as the majority of back-plot burials excavated on the A1 scheme. Both were located at some distance from *Cataractonium* but were still visible from the town/fort, again contrasting with contemporary rural and back-plot burials, which were typically obscured behind road-front settlements or placed against boundaries. Neither small cemetery had any obvious focus, although at Brough Park this may have lain to the west of the excavated area.

The small cemetery at Hollow Banks Farm has been suggested to contain the burials of military or civilian administrative personnel (*ibid*., 197), while the burials excavated by the A1 scheme at Brough Park are likely to have been associated with the nearby fort of *Cataractonium* (see Chapter 4). These groups of burials are therefore likely to represent sections of the community linked by profession, and their families. The enhanced visibility of these small detached cemeteries may reflect a statement of unity, as can be witnessed elsewhere in the empire (cf. Rife and Moore Morison 2017, 31). Other reasons for creating a separate cemetery discussed by Cool (2004, 463–4) include previous cemeteries being 'full', a desire on the part of a group of people not to associate their dead with the rest of the community (possibly on religious grounds), exclusion by the rest of the community, the desire by a group of different origin to bury their dead in their traditional manner, or, as suggested for Brougham and probably also for Brough Park, the arrival of a new military unit.

Back-plot burials

The term back-plot burial is used throughout this volume and can be equated directly with the terms 'house plot' burial and 'backland' burial used by other authors (see Smith 1987, 115–8; Esmonde Cleary 2000, 129). As discussed in Chapter 1, 'house plot' implies a function

for the street frontage, which often cannot be supported, while 'backland' does not sufficiently convey the almost invariably enclosed nature of the burial areas investigated on the A1 scheme.

Many of the Roman burials recorded by the A1 excavations were found in areas behind, but close to, roadside settlement, e.g. at Brompton West, Bainesse (Fields 159A and 163E) and (probably) at Scurragh House. In addition, more than two-thirds of Roman burials previously recorded in the Catterick area were in back-plot locations. In each case, they either definitely or probably lay within enclosures located behind roadside settlement fronting Dere Street, in areas that would have had no open public access. These can therefore be regarded as private burial plots. However, the status of the single Roman-period burial at Scotch Corner is unclear. It lay within what is likely to have been an active settlement plot, but as radiocarbon dating of the human remains within the grave failed, its relationship to Dere Street is unclear.

Table Ten of the Laws of the Twelve Tables, which formed the foundation of Roman law (Chester Johnson *et al*. 1961), stated that "a dead person shall not be buried or burnt in the city". However, this applied only to the *pomerium* (religious boundary) of Rome rather than the whole city (Toynbee 1971, 48). The legal status and the extent of any *pomerium* at *Cataractonium* is unknown, and one is unlikely to have existed at Bainesse. However, back-plot inhumation burials have not been found within the walled Roman town to date. The back-plot burials at *Cataractonium* were located within extra-mural settlement plots, those at Brompton West close to the northern limit of the town and those from earlier excavations at Catterick Racecourse to the south of the town. Perhaps their peripheral location was considered to be sufficiently distant from the main settlement. The presumed back-plot burials at Scurragh House may have been located there because the status of the roadside settlement meant that the statutes did not apply. At Ilchester, the backplots of properties located on the periphery of the town were also used for burial (Esmonde Cleary 1989, 80), again perhaps suggesting that such a form of burial was acceptable within the town, if close to its limits.

There is no clear explanation as to why some people at settlements such as Bainesse chose to bury their dead in a large, public cemetery, while others selected to hold funerals in private back-plots. Perhaps there was a charge for use of the public cemetery, or it was used by people who did not own property or have access to private burial spaces. Cleary (2000, 129) observes that the back-plot burials "place more emphasis on the relationship between particular groups of living and dead, rather than removing the latter into the wider anonymity of a large cemetery".

Given the small number of Roman towns in northern Roman Britain, and the relatively limited amount of excavation undertaken within them, parallels for the back-plot burials recorded at Brompton West, Bainesse and Scurragh House are best sought elsewhere in the province, where similar interments have been found at numerous settlements (Smith 1987, 118–9; Smith *et al*. 2018b, 238–9), such as Ilchester, Somerset, Higham Ferrers, Northamptonshire, and *Margidunum* in Nottinghamshire (Leach 1982, 61–91 and 92–106; Lawrence and Smith 2009, fig. 6.1; Cooke 2014, 126–31).

Little research seems to have been carried out into the differences between such plots and how these might reflect differing social status, traditions and indeed origin between the various groups using them. At Healam Bridge, where only back-plot burials were found, it was noted that an isolated group of three burials interred with items of personal adornment contrasted sharply in funerary culture with the rest of the burial population, and as a result a familial relationship was suggested for them (Ambrey *et al*. 2017, 143).

Rural burials

The excavated rural burials in Roman Britain are vastly outnumbered by those found around towns, which is the reverse of the distribution of the living population (Esmonde Cleary 2000, 127). Despite the large area investigated, the A1 scheme has done little to add to the sparse distribution of isolated rural burials known to exist in the area, contributing only the single burials found at Low Street and Bainesse (Field 157, although this is not definitively Roman).

Several studies that have explored the impact of Roman military forces arriving in new areas in north-western Europe, including Britain, have shown a minimal immediate effect upon the local Iron Age rural economic strategies. In most cases, this is limited to the expansion of production and slight shifts in emphasis to supply these new military markets (Stallibrass and Thomas 2008, 151–2). In northern England, except for the Tees Valley area, the impact upon the indigenous rural community was minimal, with considerable delay before any recognisable change becomes apparent in the archaeological record (Ross 2011, 109). Similarly, invasion appears to have had little immediate observable effect on rural funerary habits in Britain, with the 'invisible' Late Iron Age rural dead in general transforming smoothly into the 'invisible' Early Romano-British rural dead (Smith *et al*. 2018b,

275–6), presumably with a similar distribution across the landscape. At Wattle Syke in West Yorkshire, where a number of Late Iron Age burials (both adults and babies) were excavated, Early Roman funerary activity actually becomes less visible, with only babies found. Adults were presumably being buried (or otherwise treated) somewhere away from the excavated settlement area (Martin *et al*. 2013, 64–5).

How the majority of the rural dead were disposed of in the hinterland surrounding *Cataractonium* remains unknown, although it is of course possible that some individuals were transported to burial areas around the main settlements and lie amongst their more urban contemporaries.

Grave markers and intercutting burials

Few of the burials recorded by the A1 scheme excavations retained evidence for markers and it is necessary to look elsewhere for evidence of the range of above-ground elaboration that may once have indicated the location of graves at Catterick. Roman graves could have been marked on the surface in different ways. Returning the spoil directly to the grave results in the simple rectangular mound commonly seen in modern cemeteries. Such simple mounds have been suggested for the Roman cemetery at Driffield Terrace, York (Hunter-Mann 2006), and were apparently recorded by Sidonius in 5th-century Gaul (Dalton 1915, 78–9). The burial could be marked by a larger mound, a wooden post (or posts), or a stone monument, be fenced, ditched, walled, placed within a cairn, or could be further contained within a tomb, mausoleum and/or a ditched, fenced (Hilts 2013b) or walled enclosure. There is evidence for several of these types of grave markers from northern England. For example, small burial mounds are known from sites associated with military installations (Struck 2000, fig.9.3; Petts 2009, 162). The largest excavated group of these lay at Petty Knowes, close to High Rochester Fort (Charlton and Mitcheson 1984). However, large mounds of certain Roman date are almost unknown in the north (Struck 2000, 88–92).

Three of the six excavated cist burials at Lanchester appeared to have had a marker (either a post or stone), which was inserted outside one end (Turner 1990, 76). Two of the recorded settings were quite shallow and would have been lost had the site suffered from more severe truncation. Marker posts may also have been employed in cemeteries associated with several fort sites along Hadrian's Wall (Petts 2009, 162). Elsewhere in Roman Britain, one of the cremation burials at Pepper Hill, Kent, was marked by a post set in the centre of the grave (Biddulph 2006a, 56). One burial at Trentholme Drive, York, was suggested to have been covered by a small cairn constructed on the Roman ground surface (Wenham 1968, 34), while cremation burials at the Beckfoot Cemetery in Cumbria may have been marked by boulders (Collins 2009, 164). It is likely that any such markers at Bainesse would either have been removed prior to or dispersed by subsequent cultivation of the area. There is evidence for displaced grave monuments as *spolia* (reused cut building stone or sculpture) at *Cataractonium* (Blagg 2002, 286–9), including part of a stone lion found by the A1 scheme excavations that had been reused in a building foundation (Ross and Ross forthcoming). This indicates that engraved tombstones and monumental sculpture formed part of the repertoire of grave-furnishing around the town, although to date none have been found in situ or closely associated with human remains.

As noted in this chapter, an antiquarian account suggests that a mausoleum may have been located on the riverbank to the east of the Roman town in what is now Catterick Racecourse carpark (Whitaker 1822, 22), indicating that such structures may also have formed part of the local funerary tradition. However, there has been almost no modern archaeological investigation in this area, and such structures are yet to be found elsewhere in the vicinity. Tombs or mausolea are known to exist within the northern military zone, including at Lamb Crag near High Rochester, Shorden Brae at Corbridge, and Binchester (Bruce 1867, 330; Gillam and Daniels 1961; Birbeck 2008, 9–11). At Corbridge and Binchester, mausolea were surrounded by walled enclosures. Many of the burials at Low Borrowbridge in Cumbria were also surrounded by small ditched enclosures (Hair and Howard-Davis 1996), and a burial in the *vicus* at Binchester was partially surrounded by a shallow gully (ASDU 2016b, 4).

Evidence for marking of Roman graves at Catterick may have been largely obliterated as a result of extensive disturbance by subsequent agriculture. Although contemporary Roman ground surfaces did not survive at sites outside the settlement areas of *Cataractonium*, some indication of the extent of this later truncation is provided by the presence of up to 0.5m of topsoil and subsoil overlying the surviving burials at Bainesse Cemetery. Most of the forms of marking noted above would have been prone to destruction, either as a result of deliberate removal of above-ground impediments to the plough (such as mounds or stone monuments), or unconscious obliteration of below-ground traces, such as shallow postholes or small gullies. Evidence for grave marking recorded by the A1 excavations included the unique arrangements of four stakeholes surrounding several of the graves at Scurragh House, which only survived as shallow features due to truncation (Chapter

5), the penannular gully around Grave **273** at Bainesse, and perhaps also the nearby ring ditch (Chapter 3).

Many small groups of burials in the Bainesse Cemetery shared common alignments, and it is possible that several had been reopened for secondary burials, suggesting that at least some of the graves may have been originally marked above ground in some way. However, this does not explain the numerous instances of intercutting burials in the cemetery. Evidence derived from the biographies of stone funerary monuments and their subsequent reuse as *spolia* in Italy suggests that they typically ceased to have meaning within a few generations (Pearce 2017, 15). More ephemeral markers, such as wooden posts, small cairns or low mounds, could have been lost more quickly, a phenomenon already observed in antiquity, as noted in Chapter 3. The evidence from Trentholme Drive led Wenham (1968, 36) to suggest that the Roman grave diggers were quite ruthless in disinterring earlier remains in preparation of a new grave. Without his timely intervention, this would have been the fate of the remains of Sidonius Apollinaris' grandfather in 5th-century Gaul (Dalton 1915, 78–9). Reuse of grave furniture and markers in subsequent burials was not unknown, as in the case of the stone sarcophagus of Aelia Severa at York, which had reused the tombstone of Flavia Augustina as its lid; indeed, the sarcophagus itself was subsequently reused for the gypsum burial of an adult male, implying disrespect for Aelia's remains (RCHME 1962, 99).

In contrast, few cases of intercutting have been recorded amongst the back-plot burials found in the Catterick area, exceptions being a small cluster of burials at Bainesse in an area which, as described above, was used for interments over a long period (CfA Site 46; Wilson 2002a, fig. 89) and several cases at Catterick Bridge (*ibid*., 195 and 201). Private burial plots appear to have benefitted from respect for ancestors, presuming a direct relationship between the deceased in each plot, handing down of knowledge of the location of earlier interments and a reduced risk of strangers unwittingly disturbing such graves.

Family Groupings

Identifying familial associations between the dead is fraught with difficulty, unless there are clear biological links between individuals. Groups of back-plot burials are perhaps more likely to comprise people associated with the property (at least over shorter timespans). Identifying family plots is particularly difficult within larger cemeteries. Groups of graves clearly separated from their neighbours by enclosing boundaries, such as those found demarcated by fences at Colchester (Hilts 2013b, 6–7), would be likely candidates. However, no such features were found at Bainesse Cemetery.

'Family plots' have been suggested for the Eastern Cemetery of Roman London, in some cases indicated by groups of graves that exhibit specific burial practices, such as amphora cremation burials and chalk burials, or unusually dense clustering of inhumations that might not be distinctive in other aspects of funerary rite (Barbour and Bowsher 2000, 23–4 and 101). Variation in the overall density and arrangement of burials was posited as evidence for family or extended family groupings (*ibid*., 300). Familial relationships were also suggested in cases where more than one individual was present, including dual inhumations (usually an adult and infant), multiple cremations in a single grave, and stacked and side-by-side graves (*ibid*., 100–1 and 272). An attempt to examine familial relationships using skeletal data was largely unsuccessful, although two individuals interred in adjacent graves in a row of ten shared a range of non-metrical skeletal traits that may indicate a possible genetic relationship. Increased incidences of other traits in some of the burial plots also possibly implied genetic differences between the groups of people buried in them (Conheeney 2000, 280 and 294).

More success in determining family relationships amongst some groups of burials at the Butt Road cemetery in Colchester has been achieved using DNA analysis. This demonstrated kinship between some, if not all, of the individuals interred in and around two Late Roman timber vaults (Voong *et al*. 2017), demonstrating that such grouping of graves can indeed be indicative of familial relationships.

An early to mid-4th century grave (Grave **20114**) at *Cataractonium* contained five individuals buried together, including an adult male and female, accompanied by three juveniles aged between one and six years old. This group has been interpreted as a family, although whether this is correct is difficult to ascertain pending DNA analysis of the remains. At Cannington, Somerset, numerous double and multiple burials were identified; however, the excavators thought that superimposition and close grouping may have caused the merging of single cut graves into areas that appeared upon excavation to be multiple burials, while also suggesting that double burials could also be interpreted as potentially indicative of disease killing family members within a short time of one another (Rahtz *et al*. 2000, 98). At Baldock, Hertfordshire, an incomplete multiple burial could only be proven to contain a minimum of three skeletons, two males and a prone female, but may have contained up to five individuals (Keefe *et al*. 2015b). As noted above, in the Eastern Cemetery of Roman London, two types of multiple burial occurred; burials that were stacked on top of one another, as seen at Bainesse Cemetery, and burials that were side-by-side. However, in both cases, burials

did not appear to be simultaneous. Rather, periods of time appear to have elapsed between burials, suggesting a family plot (Barber and Bowsher 2000). At Western Road in Leicester, pairs of burials containing an adult and a child were arranged in T- or L-shaped positions (Morris 2016). Therefore, the limited evidence of multiple Roman burials suggests that such graves were rare in this period, and their presence only in one small area in Bainesse Cemetery suggests that only a small proportion of the population, conceivably just one family, considered such re-opening of graves for additional interments as an appropriate rite.

Opposed pairs of burials, where juxtaposed graves lay parallel to one another but with the bodies orientated in opposite directions (e.g. Wilson 2002a, plate 86), may suggest a relationship between two individuals and seem to have been a brief localised fashion in one area adjacent to *Cataractonium* during the middle of the 4th century. Three such pairs were recorded during a previous excavation at Catterick Bridge (graves 88/402, 163/191 and 1001/1003), and a fourth pair of parallel burials (graves 113 and 151) shared the same orientation (Wilson 2002a, 195–6 and 201). Another opposed pair of burials was found nearby at Hollow Banks Farm (graves 11 and 12; Eckardt *et al*. 2015, fig. 3), while the orientation of one of a second parallel pair of graves (nos 7 and 8) could not be determined. This pattern of burial had not been previously recorded elsewhere in the area. However, a possible example of this behaviour was found by the A1 scheme excavations at Bainesse Cemetery. Grave **17** (adult male oriented south-west to north-east) lay alongside Grave **16** (adult female also oriented south-west to north-east); however, Grave **16** had been reopened and a second burial (Grave **15**, adult male) had been inserted lying in an opposed orientation. Similar 'opposed' pairs of graves have been found elsewhere in Roman Britain, for example at the Parks cemetery at Godmanchester, Cambridgeshire, where the dispersed nature of the 4th-century inhumations made recognition of such pairs (both opposed and similarly orientated) relatively clear (Jones 2003, 27 and fig. 13).

Finds from graves may also give an indication of familial relationships between the deceased. A previous example from *Cataractonium* was a pair of burials at Hollow Banks Farm, comprising a man and woman buried beside each other, who each had a bracelet placed onto the body (Eckardt *et al*. 2015, 216). As noted in Chapter 3, an example of similar behaviour was observed in Graves **194** and **198** in Bainesse Cemetery, which were located only 4.5m apart. Here, iron bracelets (the only two examples from the excavated portion of the cemetery) had been placed on parts of the body, although not the arms, rather than being worn at the time of interment. Another possible example of such a 'family' tradition may be the two burials (Graves **20340** and **20532**; Chapter 4) that contained fish hooks at Brompton West. Croom (Chapter 8) has highlighted how unusual these objects are as grave goods, and their presence in two graves that were placed only 10m apart in what was probably a single back-plot enclosure suggests a possible relationship between the two individuals.

One of the cremation burials at *Cataractonium* was a double burial of an infant and a young juvenile, while the *bustum*-type burial at Brough Park contained the remains of one adult cremated in situ and four additional individuals, including two juveniles and two further adults. Double cremation burials have been observed at other Roman cemeteries. For example, at the Roman roadside settlement at Baldock, Hertfordshire, five of the 60 cremation burials were double burials, all of which included an adult and a child (Keefe *et al*. 2015b). According to Millett and Gowland (2015, 178–80), it is possible that the rite of burying two or more individuals together was either reserved for instances where two individuals died at a similar time and were cremated together, or alternatively one individual was curated "either as a body, or as cremated remains, until the death of an appropriate burial partner".

Minority burial customs

Roman burials often include examples where bodies have been subjected to treatment differing from the norm, whether laid out in an unusual position or physically altered in some way (Tsaliki 2008). The most common forms of such burial rites, which usually only apply to a minority of individuals, have been termed 'minority' or 'alternative' burial customs in this volume rather than 'deviant', as this term has negative connotations. Such minority burial customs include a prone (face-down) body position and decapitation, and examples of both of these practices were recorded by the A1 scheme excavations. Prone burials were found at Brompton West (Grave **20955**), Low Street (Grave **7181**) and Bainesse Cemetery (Graves **234** and **237**), and decapitated individuals in Graves **217** and **244** at Bainesse Cemetery. Recent analysis of rural Roman burials across southern and central Roman Britain suggests that these rites were not reserved for either sex, were mainly found amongst adults, and frequently associated with older individuals (Rohnbogner 2018, 329).

According to Philpott (1991), prone burials were more common in rural or small town cemeteries, particularly in the 4th century, although earlier prone burials do exist, such as Grave **20955** at Brompton West. Nationally, prone burials were often located at the periphery of an ordered cemetery and they were thought to signify

'outcast' status (Philpott 1991; Taylor 2003). While this could be true of the old middle adult male in Grave **20955** at *Cataractonium*, given that he is set apart from other Roman adult burials dating to this period, in Roman cemeteries such as Driffield Terrace, York (Caffell and Holst 2012b), and Oxford and Newark Street in Leicester (Keefe and Holst 2013d), prone burials were treated no differently from other interments, save for the fact that they had been buried face down. At Western Road in Leicester, 15% of skeletons were interred in prone positions, and while some of these were in more liminal areas at the edge of the cemetery, others occupied the centre of the cemetery and several contained grave goods, suggesting that these individuals were not outcasts (Morris 2016). At Driffield Terrace, three individuals (3.7% of burials) were buried prone (Caffell and Holst 2012b), while at Horncastle, in Lincolnshire, 6.1% of skeletons were interred likewise (Caffell and Holst 2008). Most of these skeletons lay in extended prone positions, similar to the two burials excavated at Bainesse (Grave **234**, containing a mature adult male, and Grave **237**, containing a young middle adult female placed within a cist).

However, the two prone skeletons at *Cataractonium* and Low Street were in more unusual positions. The old middle adult male in Grave **20955** lay prone in the grave with the left leg extended, while the right leg was tightly flexed at the hip and knee and tucked underneath the body. The man's left arm was tightly flexed at the elbow, so that the hand was by the left shoulder, and the right arm was extended behind his body and flexed at the elbow and wrist, with the right hand flat on the grave, as if trying to push the body up. The tightly flexed young middle adult male from Low Street (Grave **7181**) lay face down in a crouched position, although one arm had evidently been raised up and later ploughed away. As noted in Chapter 5, a large stone that appeared to have been placed on the back of the Low Street individual proved upon excavation to have merely been included as part of the grave backfill. These varying body positions suggest a different rite to the more formal extended prone burial and have been found at other Roman cemeteries. At Barnsdale Bar, Norton, South Yorkshire, a skeleton of a mature adult male lay on his right side, with the torso in a crouched position (Holst 2007d). At High Street, Doncaster, two adult males had been buried on top of one another in opposing orientations and extended positions, with the lower skeleton facing up and the upper skeleton buried prone (Holst 2004b). The evidence suggests that, while most skeletons were laid out formally, a variation of the conventional rites was practiced for a minority of individuals. As Crerar (2016, 388) suggests, a rite that may appear bizarre today was not necessarily considered so by those who practiced it. A similar pattern was found amongst the 'alternative' burials recorded at Catterick. While apparently unusually positioned prone burials found at Brompton West and Low Street were of early 2nd-century and 3rd- to 4th-century date, other more 'formal' unusual burials (decapitation and prone) found at Bainesse Cemetery were a late practice, occurring in the later 4th to mid-5th centuries (Chapter 3).

There were two decapitated skeletons found at Bainesse, namely Grave **217**, which contained a young middle adult male interred with hobnailed shoes, and Grave **244**, likely containing another young middle adult male. The 4th-century decapitation burial found previously at the Thomas Armstrong concrete block factory can be added to these (Speed 2004, 16). Elsewhere in Yorkshire, a post-Roman burial containing a decapitated probable adult female wearing nailed footwear was found at Parlington Hollins to the south-east of Leeds (Holbrey and Burgess 2001, 102). Although decapitation burials are present elsewhere in earlier centuries, the burials at Catterick follow a national trend that is mainly restricted to the 4th or early 5th century (Philpott 1991, 78–9; Smith 2017, 45–6). At the cemetery at Driffield Terrace, York, which was in use throughout the Roman period, 70.8% of skeletons were decapitated, but such a high incidence of decapitation is unique in Britain (Caffell and Holst 2012). Roberts and Cox (2003, 153) reported 58 known decapitated individuals in Roman Britain at the time of their survey. They observed that the crude prevalence of decapitation was 5.5%, although the proportion of decapitated burials ranged from 0.3% to 19.7% in the cemeteries they surveyed. The prevalence rate of decapitations observed on the A1 scheme was 0.6%, which fits within the lower range of the observed pattern. As Crerar (2016, 389) states, were it not for the decapitation itself, there would be nothing to distinguish decapitated burials from others of the Late Roman period (see also discussion in Black 1986, 225; Cooke 1998, 250; Booth *et al*. 2010, 480–1).

Given that 'alternative' burials are found throughout Roman Britain and seem to have been applied to most, if not all sections of society regardless of age or sex, it remains unclear whether the practice of such rites can provide us with any information regarding the identity of the people receiving them. Their use appears to have reflected a wider tradition, perhaps based in superstition, rather than based on any restricted cultural tradition.

The strong coincidence between cists (as opposed to cobble-lined graves) and minority burials within Bainesse Cemetery (three of the four minority burials occupied all three of the cists) could suggest a connection between these rites. This is further supported by their similar dates (later 4th or 5th century AD). A small number of

examples where decapitated bodies had been placed in cists or slab-lined graves are known from elsewhere in Roman Britain (Philpott 1991, 82).

ORIGINS AND CULTURE

The Roman period represents a time when the population of northern Britain was in flux and included those considered 'native', as well as those arriving and settling in Britain from Europe and beyond. As a result, one of the challenges facing those trying to understand this period is being able to identify the presence and influence of these different people through the study of archaeological remains. This section seeks to identify the origins of the people, their burial practices, and their material culture based on the evidence recovered from funerary sites on the A1 scheme.

Where did people come from?

Cataractonium, Bainesse and Scurragh House lay on Dere Street, a major Roman road, and must have seen a constant stream of soldiers, traders and others passing through. In addition, the fort at *Cataractonium* must have occasionally seen influxes of new troops, either batches of new recruits or occasionally whole units from elsewhere in Britain or occasionally from another province. In many cases, these soldiers would have brought their families, servants and slaves. In addition, other units passing through are attested to by the series of temporary camps that have been discovered in the area. It is unfortunate that we do not have any evidence for the identity of the units who garrisoned the successive forts at *Cataractonium*, although as discussed by Wilson (2002b, 451–2) there is some evidence to suggest the presence of soldiers from the Danube area in the later 2nd or 3rd century, most notably a tile found at Bainesse that bears a stamp possibly relating to a unit of Sarmatian cavalry.

People of possible African or mixed ancestry

One potential new group of 'non-locals' was identified by the skeletal analysis of the human remains from the A1 scheme and has been discussed in Chapter 6. Five individuals of Roman date, namely Skeletons 13342 (Grave **6**), 13328 (Grave **7**) and 12996 (Grave **140**) at Bainesse (Chapter 3), Skeleton 7182 (Grave **7181**) at Low Street (Chapter 5) and Skeleton 20957 (Grave **20955**) at Brompton West (Chapter 4), were tentatively identified as possessing traits that suggest African or mixed-race ancestry. All of these individuals were either males or probable males and were over 25 years of age. Levels of carbon and nitrogen stable isotopes from both teeth and rib/clavicle bone samples taken from three of these individuals (Skeletons 7182, 13342 and 13328) did not indicate any significant change in their diet between childhood and adulthood. Such a change can imply relocation between different geographic areas (cf. Eckardt *et al*. 2015, 211–14). This suggests that, if they did indeed have African or mixed-race ancestry, they were not themselves first generation immigrants.

At first sight, several of these individuals appeared to have been marginalised in death. The men from Brompton West and Low Street were both buried in unusual prone positions, one beyond the limit of the early settlement at *Cataractonium*, and the other adjacent to a field boundary (although possibly near a rural settlement site). The former had most limbs flexed, while the latter was interred in a ditch in a tightly crouched prone position. However, a very similar burial position has been seen in other burials of individuals without possible African heritage, for example at Windmill Hill, Driffield, Yorkshire, where an Early Roman old middle adult male, who was thought to be Caucasian, was also buried in a ditch in a tightly crouched prone position (Ní Challanáin and Holst 2018). However, burial position did not differ from the norm for the possible African skeletons at Bainesse, who were interred in supine and extended positions in formal earth-cut graves, although two (Graves **6** and **7**) had been buried on the periphery, at the north-west corner of the cemetery. In contrast to this apparent marginalisation, the individual in Grave **140** lay amongst other burials near the centre of the cemetery area and had been buried in a nailed coffin. The men in Graves **6** and **7** wore nailed footwear, and the skeleton in Grave **20955** at Brompton West wore two copper-alloy finger-rings. Although these burials contained relatively sparse assemblages of grave goods (as did many of the other burials at Bainesse), based on the available evidence, those within Bainesse Cemetery resembled many of the other burials surrounding them, and thus did not stand out as a result of differing ethnic background. As noted in Chapter 3, it is conceivable that the individuals buried close together in Graves **6** and **7** in Bainesse Cemetery, albeit at different dates, may potentially represent successive generations of a single family, something that warrants genetic investigation. As observed in Chapters 4 and 5, the circumstances under which the unusual prone positions of the burials at Low Street and Brompton West occurred cannot be determined and need not necessarily represent disrespect for the deceased or be taken as an indication of their social status.

There is considerable epigraphic evidence, both from Britain and abroad, for the presence of Africans in Roman Britain (Eckardt 2014, 67–77; Tybout 2016, 436–37) and it has been suggested that some pottery types reflect an African presence, or at least a desire for goods from this part of the Empire (Swan 2009). The physical remains of people of likely African ancestry have been identified elsewhere in Roman Britain, including London, Leicester

and York (Leach *et al*. 2010; Morris 2016; Redfern *et al*. 2016), and such individuals made up a sizeable minority of the urban Roman population. However, they were typically buried in a manner similar to the remainder of the population and are not identifiable through any distinctive burial rite.

There is currently no evidence to suggest that these people were direct immigrants to Roman Britain, although their ancestors may have arrived either as part of the military, or as traders. Although all of the individuals identified by the A1 scheme studies were probably adult males, it is unclear whether this is significant, given the small sample size, and the evidence recovered offers no indication as to their place in Roman society.

People of possible Central European origin

The presence of military personnel of central or eastern European origin in Roman Britain is well attested to from the naming of army units and historical events, such as the transfer of 5,500 Sarmation cavalry to Britain in AD175. Archaeological evidence from northern England includes the 3rd-century cremation burials at Brougham, where the range of distinctive burial practices led Cool (2004) to suggest that the community burying their dead in the cemetery originated from the Danube area and included elements who may have come from beyond the Roman frontier. At *Cataractonium*, stable isotope analysis has suggested that several of the individuals buried at Hollow Banks Farm in the 4th century had been brought up in Central Europe (Eckardt *et al*. 2015, 213-4).

As discussed in Chapter 3 and in this chapter, the presence of a significant assemblage of knee brooches and gold-in-glass beads within late 2nd-century contexts at *Cataractonium* and Bainesse, both of which potentially derived from this part of Central Europe, suggests arrival of a new military unit from that area (Cool 2002, 42–3). The presence of military metalwork at Bainesse suggested the presence of soldiers at the settlement (*ibid*., 34), and it was noted that the style of burial used a century later amongst the cremation graves in Bainesse Cemetery would not have been out of place for some tribes in the Danube region. It is thus quite possible, although unproven on the evidence currently available, that these individuals at Bainesse (and possibly those buried at an earlier date at Brough Park) may have been members of a military community of Central or Eastern European origin.

Identifying non-locals using biomolecular analyses

The dietary stable isotope analysis carried out on the skeletons from the A1 scheme identified four Roman individuals with carbon and nitrogen values sufficiently dissimilar from the remainder of the studied Catterick population that they may have originated outside the immediate local area (Chapter 10). Although it was outside the scope of the current study, further isotope analysis, for example of oxygen/strontium and/or sulphur, would be required in order to further explore the geographic origins of these individuals.

Recent DNA work on some of the skeletons from the cemetery at Driffield Terrace, York, has demonstrated the potential to identify the origins of both short-distance and long-distance migration in Roman Britain (Martiniano *et al*. 2016). The group of Roman individuals of possible African or mixed-race ancestry from Bainesse and Low Street, together with the individual of Anglo-Saxon date from Scotch Corner (discussed further below), would provide an ideal basis for a similar study of the current assemblage of human remains.

Where did their material culture come from?

The available evidence that can indicate the origins of the Roman population in the Catterick area suggests that it included both native and non-native individuals, and possibly groups. However, can we draw any further conclusions in terms of where people came from based on the grave goods recovered from funerary sites found across the A1 scheme?

This section considers the sources of the objects selected for burial with the dead (see Chapters 7–9) to see how this compares and contrasts with evidence provided by the osteological and isotopic analyses of the human remains (see Chapters 6 and 10). For example, would a person be buried with a pot that had been made where they originated from? Evidence that this might be the case can be found at Hollow Banks Farm, where one individual that could be identified as non-local had been buried with an equally foreign glass flask, for which there is no other example of in Britain. Instead, this type is common in northern France, and it has been suggested that this individual, or one of their group, had brought the flask with them from 'home' (Price 2010, 47). However, it is unlikely that the choice of grave goods would be based on this factor alone. Instead, it would have been influenced by a host of considerations, which are discussed elsewhere in this chapter. In addition, there is value beyond testing the hypothesis that people would have been buried with grave goods that reflect their geographic origin, as such objects can also provide evidence for widescale trade and/or population mobility within the Roman Empire.

Eckardt (2014, 22) has noted that the "relationship between objects and ethnicity…[has long been]…a hot topic in archaeology". Migration is a continuing prominent theme in archaeology (Redfern *et al*. 2018,

21); however, identifying 'foreigners' amongst the data is notoriously difficult. Eckardt (2014, 55–62) has recently provided a useful summary of the current state of knowledge concerning the relationship (or lack thereof) between grave goods, funerary ritual and the geographic origin of the deceased.

The increased use of isotopic studies to investigate the geographic origins of Roman populations, both in Britain and across the Roman empire (Prowse 2016, 208–13), has served to demonstrate the complexity of migration during the period. The current view is that the relationship between geographic origin and socially and culturally constructed identities, as expressed through burial, is far more complicated than previously thought (Marquez-Grant 2008, 67; Chenery *et al*. 2011; Eckardt *et al*. 2015, 214–15; Shaw *et al*. 2016). Much of this argument is based on two large stable isotope studies of remains from the Lankhills cemetery, which have shown that there was generally little if any correlation between burial practice and geographic origin of the deceased (Evans *et al*. 2006; Booth *et al*. 2010, 509–16; Chenery *et al*. 2010). However, one of Clarke's (1979b) groups of 'foreigners' at Lankhills (male inhumations including crossbow brooches) has so far passed this examination relatively intact (Cool 2010b, 37), although the individuals proved to have a more diverse geographic origin than Clarke originally suggested. A similar result has been reached in the isotopic study of comparable burials in the Hollow Banks Farm cemetery at *Cataractonium* (Eckardt *et al*. 2015). For both groups of burials, it has been suggested that the crossbow brooches denoted incoming military officers or civilian administrators. The conclusion then is that objects placed in burials can, in some instances, be indicative of a specific social or professional group (albeit in these cases largely composed of non-locals), which may have overridden geographic origin. Eckardt *et al*. (2014, 544) found that this appeared to reflect unity and integration. A sample of the group of burials at Driffield Terrace, York, a cemetery distinguished by demographic makeup (mostly adult males, but including one female and five children) and burial rite (an unusually high proportion of decapitations), has been shown by isotopic and genetic studies to have had diverse geographic and ethnic origins and may represent another example of this phenomenon (Müldner *et al*. 2011; Martiniano *et al*. 2016).

Cooke's (1998, 271–2) study of Late Roman cemeteries across the western empire concluded that, at least by the 4th century, population mobility had created a mixing of rites across north-west Europe that obscured indicators of ethnicity in the burial rite. However, in a potential cultural cul-de-sac such as Roman northern England, the continuing integration of objects and individuals from across the Empire with local populations, not least as a result of the arrival of military units, will have created a regional cultural identity with its own distinctive diversity (Webb 2011, 140–1), including the manner in which the dead were sent to the afterlife. However, with an ever-expanding corpus of excavated burials available for continued analysis, Cool (2014, 13) has commented that, based on funerary ritual and grave goods, "there can be no doubt that some cemeteries seem to be showing different ethnicities."

At a larger scale, issues of ethnicity can best be examined at coherently atypical or different sites (Cooke 1998, 271), as has been the case with the 3rd-century cremation cemetery at Brougham, Cumbria. This has been interpreted as containing the remains of soldiers originating from the Danubian frontier, or their immediate descendants, based on some of the pyre and grave goods, burial practices and epigraphy (Cool 2004, xxiv).

Oltean (2009, 94–5) has noted that emigrant communities can display an increased expression of their origin, and an increased incidence of grave goods might represent a need by outsiders to make more of a statement about their identity or social status in death (Price *et al*. 2015, 142). Alternatively, it may be a result of people who are more geographically mobile generally being of higher wealth and social status. In contrast, high status 'locals' may not have felt the same need for a display of rich grave goods, since everyone was already aware of their position in society. A example of this was found at Uckerby, 3.5km to the north-east of *Cataractonium*, where a Roman carved stone sarcophagus (in itself evidence of a relatively high-status burial) contained only the skeleton of the deceased and lacked any grave goods (Thorpe 1975, 4).

Pottery

Ceramic grave goods originating from outside Britain were only present in four graves, all of which were inhumations at Bainesse Cemetery. These vessels comprised two samian cups from Lezoux in Central Gaul (Graves **36** and **161**), and three black-slipped beakers made in Trier, Germany (Grave **163**, and two in Grave **219**).

Evidence for trade and/or mobility of people within Britain based on ceramic goods was present at all three of the main Roman-period burial sites, namely Bainesse Cemetery, *Cataractonium* and Scurragh House, and was evidenced in both inhumations and cremation burials. Most common was the use of colour-coated beakers made in the lower Nene Valley, Cambridgeshire. These were frequently used as placed pots in burials at Bainesse Cemetery, with seven Nene Valley beakers recovered from five graves (Graves **191**, **201**, **219** (n=2), **239**

(n=2) and **240**). An additional two graves contained the remains of Nene Valley beakers that are thought to have been redeposited, potentially representing placed pots disturbed from earlier graves (Graves **149** and **215**), and two beakers that had been smashed within Grave **229**. At *Cataractonium* and Scurragh House, the direct link with the burial rite is less clear, but the frequency of this vessel type within grave fills perhaps suggests that Nene Valley beakers were a popular choice for use in burial rites, whether as placed grave goods, as demonstrated at Bainesse Cemetery, or as part of graveside activities, which may be suggested by the frequency of fragmented Nene Valley beakers within grave fills at all three sites.

Black-burnished ware (BB1 and BB2) and greyware jars recovered from graves at Bainesse Cemetery and *Cataractonium* provide further evidence of trade in Roman Britain, with examples of vessels made in Colchester, the Thames Estuary and Dorset, as well as copies of these vessel forms made in more local fabrics.

Coins

At Bainesse Cemetery, the three pierced coins of Antonius Pius from inhumation Graves **148** and **221** and cremation Grave **269** had all been minted in Rome, as had the additional example that was considered to be disturbed from a burial. At *Cataractonium*, three of the cremation burials at Brough Park contained coins, which had been minted in Rome (Graves **6723** and **6782**) and Lyon (Grave **6790**), while at Brompton West two graves contained coins. These included the stack of nine coins recovered from the mouth of the individual in Grave **20417**, which had been minted in London (n=7), Trier (n=1), and Lyon (n=1), while the single coin in Grave **20476** had also been minted in Trier. However, this geographical distribution merely reflects the mints that were the main sources of coinage in Roman Britain, namely Rome up to the 3rd century and London, Trier and Lyon during the later 3rd and 4th centuries.

Jewellery

As with pottery and coins, items of personal adornment recovered from graves at Bainesse Cemetery suggest that objects that had travelled from the Continent were used in burial rites. *Bullae* of a type common in Eastern Europe (from the Roman regions of Pannonia, Dacia and Moesia) were recovered from two inhumations at Bainesse Cemetery (Graves **103** and **150**). The P-shaped brooch from cremation Grave **272** at Bainesse Cemetery was also identified as being of 'continental' design (although it could have been manufactured in Britain) and of a type commonly found on the Rhine frontier (Croom, pers. comm.). However, no items of personal adornment recovered from graves at *Cataractonium* or Scurragh House were identified as continental in origin.

There is evidence from all three sites for national or regional trade networks that extended across Roman Britain. A brooch of a type most commonly recovered on sites in the south-west and Lincolnshire (Booth 2014, 147) was recovered from Grave **20476** at Brompton West, providing evidence for trade at a national scale. At regional level, Grave **35** at Bainesse Cemetery contained a torc-twisted anklet worn on the right leg, a form found more commonly in the Roman north than in southern Britain (Cool 2010, 297), and so perhaps attests to regional trade. Items made from jet (e.g. the 85 beads included in inhumation Grave **10827** at Scurragh House, and the jet beads from Graves **180** and **235** at Bainesse Cemetery), which in Britain can only be sourced from the North York Moors area, provide further evidence for regional sources of materials and goods.

Environmental remains

Chapter 9 presents the issues associated with the definitive identification of plant remains recovered from graves as having formed part of the burial rite. However, two finds are worthy of mention here, as they demonstrate movement of goods. Blue woodruff (*Asperula arvensis*) is an archaeophyte that spread as an annual arable weed from southern Europe and seeds from grapes (*Vitis vinifera*) recovered from Grave **262** at Bainesse Cemetery likely demonstrate trade with southern Britain, if not dried fruits from the Continent, given that such fruits were unlikely to have travelled great distances.

Does the source of grave goods reflect the geographic origin of peoples?

While the items selected for use in burial rites have origins from across Europe, the number of specific locations represented is quite limited. Pottery and coins had common sources in Trier and London, while those from modern France originate from two locations, Lyon and Lezoux respectively, which are relatively close (c.145km), and so offer limited geographical origins.

Analysis of the artefactual and ecofactual assemblages from the Roman settlement areas around *Cataractonium* and Bainesse is ongoing, and these will be presented and discussed by Ross and Ross (forthcoming). Once this work has been completed, it will be useful to compare the types of pottery, coins and other items selected for use in burial rites with those evidenced in domestic and industrial contexts to see if there are any distinguishing variances that might inform further about the reason behind object selection for burial rites.

One of the main conclusions regarding the origins of the Roman population buried in the Catterick area is

the possibility that a small number of individuals may present evidence for African or mixed-race ancestry. However, none of the items placed with these individuals is thought to have derived from Africa, and indeed none of the items from any of the burials on the A1 scheme could be suggested to represent items made in Africa and brought to Britain to be (eventually, and almost certainly not in primary function) used as part of burial rites.

Therefore, in terms of comparisons with the results of analysis of the human remains, it has not been possible to test the proposed hypothesis that people would have been buried with grave goods that reflect their geographic origin using the data available from burials on the A1 scheme in isolation. However, the dataset will form a critical component of future UK and Empire-wide research, where, as part of a larger dataset, it will increase available sample sizes resulting in more robust and reliable hypothesis testing.

Empire-wide trade networks are clearly demonstrated through the items selected for use in burial rites, with items coming from southern and eastern Britain, modern France, Germany (specifically Trier), Italy, and possibly Eastern Europe, as well as from the local region.

Can living groups be identified in death?

Burial ritual, and hence presumably the society burying the dead, was by no means homogenous at *Cataractonium* and Bainesse. Against this background, can the data be analysed in a way that allows identification of those who would have identified themselves, or be identified by the population, as belonging to any specific group, be that defined by any of the other identity traits already discussed, or by status, which is discussed here in light of the evidence recovered from burials on the A1 scheme?

Status

In view of the wide range of funerary practice employed at *Cataractonium* and Bainesse during the Roman period, it is difficult to identify a 'normal' local style of burial. What is perhaps easier to identify are 'abnormal' groups of burials where behaviours are recorded either uniquely or in a much higher frequency than seen in other groups of a similar date.

Struck (2000, 85) has considered the criteria by which status can be exhibited during burial, including monumental funerary architecture, the funeral process, the treatment of the body, the provision in the grave of valuable objects or status symbols, and the location of the grave. Status itself is difficult to define. Wealth and social status do not necessarily go together, and a richly furnished burial may not accurately have reflected the status of the individual in life. This was recognised by the Romans themselves, such as in the case of the character Trimalchio's grand plans for his tomb in Petronius Arbiter's 'Satyricon' (Walsh 1997, 59–60). The provision of increased numbers of grave goods (particularly where these were of low intrinsic value) cannot be taken to imply an increased social status and may instead represent varying individual taste (cf. Sprague 2005, 7) or inheritance. The effort put into a funeral by the mourners may be a better indicator of the status of the deceased (e.g. von Hesburg 1998; McKinley 2006).

Tombstones and other possible funerary sculpture have been found at *Cataractonium*, both by previous excavations and the A1 scheme, and there is possible antiquarian evidence for a mausoleum. This stands in contrast to an absence for such evidence from Bainesse and may suggest that high-status (or at least wealthy) people were more likely to have lived in the town. Given this lack of conspicuously 'high status' excavated burials at Catterick, it is difficult to identify social stratification within the funerary dataset for the area.

Previously discovered burials from *Cataractonium* and Bainesse have included some items indicative of the status of the deceased. The suite of jewellery accompanying a probably early 4th-century skeleton at Bainesse was used to suggest that the individual, possibly of non-local origin, may have been a *gallus* (grave 951; Wilson 2002a, 176–8; Cool 2002, 41–2; Chenery *et al*. 2011, 1533–4). The crossbow brooches found in burials at Catterick Bridge and Hollow Banks Farm, together with the belt-sets found at the latter site, are likely to have been badges of office in the later Roman period, relating to either military or civilian positions (Swift 2000, 3–4).

At a slightly broader scale, there is a conspicuous qualitative difference in the pottery vessels selected to accompany the previously excavated dead at Hollow Banks Farm during the 4th century (Eckardt *et al*. 2015) compared to the broadly contemporary nearby burials from Catterick Bridge, the 1972 Catterick excavations and the Thomas Armstrong factory (Wilson 2002a, 185–205; Wilson and Wacher 2002, 122–38; Speed 2004). Although these were mainly drinking vessels (beakers and small jars), and all of broadly contemporary manufacture, those at Hollow Banks Farm consisted of decorative colour-coated and painted Nene Valley products, whereas those from the areas to the west were almost entirely utilitarian Crambeck greywares, suggesting a difference in wealth (and access to long-distance traded items) between the two areas, which further reinforces the impression of the enhanced status of the Hollow Banks Farm group (Eckardt *et al*. 2015).

There are some indications of the status of the deceased that can be suggested from the grave goods from the A1

scheme. Few of the burials contained valuable objects. Exceptions are perhaps the jet and glass bead necklaces from Bainesse and Scurragh House, both buried with adolescents, and the possible decorated bier cremated with the adolescent buried in Grave **20106** at Brompton West. Although we cannot determine the sex of these adolescent individuals based on the osteology, the provision of the ornate necklaces perhaps may follow a pattern noted more widely across the Roman world, where prematurely deceased unmarried girls and women were accompanied to the grave by unusually rich items, which Martin-Kilcher (2000, 73) suggests reflected a 'non-attained wedding'. At the Lankhills cemetery in Winchester, there was statistical evidence for increased deposition of bead-strings in the graves interpreted (with the same caveat regarding sex) as containing adolescent or younger girls (Cool 2010b, 32), and at Lankhills and elsewhere girls and young women were frequently buried with larger numbers of bracelets and bangles (Swift 2000, 179; Cool 2010a, 307), which may reflect a similar tradition, although this distinction is not present amongst the burials at Catterick.

Provision of grave goods, and the choice of which items were selected for burial, will have been significantly affected by the traditions and expectations of both the deceased and those conducting the funeral (e.g. Hesberg 1998). While relative provision and apparent intrinsic value of grave goods can be used to suggest social trends across a group of burials, as suggested above for the burials at Hollow Banks Farm and Catterick Bridge, the presence of large numbers of grave goods, and even their apparent value, cannot necessarily be taken to signify the status of the deceased and merely represent a manifestation of what the mourners considered to be appropriate to the situation. It will be clear from the preceding chapters that the range of grave goods considered appropriate to accompany the dead at Roman Catterick was extremely limited and did not represent the range of material culture available to the deceased while alive. An example of this, discussed above, is the near-absence of brooches in burials despite their apparent widespread use by the living.

DO BURIAL PRACTICES REFLECT RELIGION AND BELIEFS?

A connection between superstition, magic and burial practices in the Roman world is well documented (Nuzzo 2000, 249) and appears to be well-represented by the wide range of objects of apparently amuletic or magical function that were found within the A1 scheme graves. A number of religious objects have been found both by previous excavations at *Cataractonium* and the A1 scheme, such as two altars dedicated to Mars and Mars Condates found in non-funerary contexts at Scurragh House, suggesting that the inhabitants had an active spiritual life and worshipped a range of deities (Wilson 2002b, 469; Tomlin 2016).

This section considers the roles of beliefs in the interment of the dead, addressing issues and patterns observed in burial practices in Roman Britain in comparison to that recovered on the A1 scheme.

Infant burial or disposal?

The *Cataractonium* non-adult population consisted largely of foetus (clearly aged under 38–40 weeks in utero) and neonate (aged 0–1 month) skeletons, while the Bainesse non-adult population consisted largely of young juveniles (aged 1–6 years). A normal infant mortality rate should result in an infant cemetery population of between 15–30% (Rega 1997, 235–6) and this was even higher at Wattle Syke in West Yorkshire (Caffell and Holst 2010). In comparison to the size of the site, the proportion of non-adults was considerably larger at *Cataractonium* when compared to Bainesse. Infant burials accounted for 80% (four of five) of inhumations during the 2nd century at *Cataractonium*. All the infant burials at *Cataractonium* were placed in a domestic rather than formal cemetery setting, and none appear to have been furnished with grave goods.

The seven burials individuals under the age of 12 months from the A1 excavations were buried under the floors of buildings, within the fills of ditches in the settlement area, and, less commonly, with the remains of older children and adults in both inhumations and cremation burials. The burial of neonate remains in domestic settings in Roman Britain is fairly common and has often been interpreted as an uncaring method of disposal. A recent study by Millet and Gowland (2015, 171) challenges the attitude that the neonatal deaths were not mourned and hence their bodies were unceremoniously disposed of in rubbish deposits, or that groups of such burials represent evidence for the deliberate disposal of unwanted infants who had been killed at birth. Instead, they propose that, based on studies from assemblages in East Yorkshire, infant burials in domestic settings are "not haphazard, but are specifically placed adjacent to features and walls" (*ibid*., 179), with different social rules pertaining to different age groups. Rohnbogner (2017, 240) identified that low proportions of infants tend to occur in managed cemeteries, of which Bainesse Cemetery may be one example. In the earlier part of the Roman period, such burials are rarely found, but in the 4th century infants become much better represented, both in cemetery and non-cemetery settings (Watts 1989; Scott 1999, 115). However, numbers are often still low. For example, at the Glen Garth/Plough Inn sites at Hayton in East Yorkshire,

where parts of a formal Late Roman cemetery were excavated, only four infants were found amongst the 43 inhumations (9.3%) despite higher rates of perinatal and infant burial recorded elsewhere in Roman Britain, although this can vary greatly from site to site (Millett and Gowland 2015, 178–9; Rohnbogner 2018, 291-4, 326–9).

In contrast, there are many comparative examples of burials of neonates in domestic contexts in Yorkshire and elsewhere. Examples from within Yorkshire include: Shiptonthorpe (Millett and Gowland 2015); Hayton and Bramham (Holst 2005c); High Wold (Holst 2009c); Rudston (Boylston and Roberts 1996); and Wattle Syke (Caffell and Holst 2010). At the Roman town of *Margidunum* in Nottinghamshire, neonatal burials were concentrated in an area close to the Foss Way that contained structures, including examples interpreted as a smithy and a possible shrine or mausoleum (Cooke and Mudd 2014, 439). In contrast, a group of 14 inhumations of 3rd- to 4th-century date located some distance away within a series of back-plots consisted entirely of older adolescent and adult burials (Cooke 2014, 126–31).

The most famous example of Roman infant burial in a domestic context was at Yewden Villa, Hambleden, Buckinghamshire, where 97 neonates and infants had been interred in the north half of the villa site (Heneage Cocks 1921, 150, in Scott 1999, 110). The number of neonates found at Yewden Villa was extreme, but the actual practice was by no means exceptional. Further examples of large numbers of infant burials are known from Rudston Villa in East Yorkshire (n=19; Stead 1980) and Barton Court Farm, Oxfordshire (n=47; Scott 1999, 113). Significantly, there appears to have been an association with infants and areas or buildings with agricultural uses. This was the case at Melton, where a foetal burial had been placed in one of the postholes of an agricultural building (Caffell and Holst 2008). At Norton an infant and a neonate were recovered from what appeared to be an area of agricultural activity (Keefe and Holst 2018). In contrast, the majority of perinate remains found at Healam Bridge (a minimum of 13 individuals) were concentrated in a small area within a back plot (Ambrey *et al*. 2017, 88–91), suggesting a specific use of this plot for the burial of such individuals.

Few neonatal or infant burials have been found in the Catterick area, either from previous excavations or from the A1 scheme, compared to the sites discussed above. From the previous excavations, the remains of a 2nd-century inhumed infant were recovered from the footing of an enclosure wall within Insula VI of *Cataractonium* (Wilson 2002a, 74). It was not clear whether the burial formed part of its construction or had been inserted later. Five fist-and-phallus amulet pendants were included in the burial (Parker 2015) and it appears to have no parallels in Roman Britain. While the phallic symbol is commonly associated with military sites during the Roman period, Parker (*ibid*.) goes on to highlight that Pliny stated, "infants are under the especial guardianship of Fascinus", the god or genius associated with the phallic image. A second burial of a foetus, which may have been redeposited, was found in a layer at Thornborough Farm (Wilson 2002a, 229).

Of the neonate and infant burials found on the A1 scheme, Graves **9343** (at Brompton East) and **21162** (at Fort Bridge) were located below the floors of domestic buildings. The relationship of Grave **21904** at Fort Bridge to a granary structure was unclear, and the burial could have taken place during its construction, below the standing structure, or after its demolition. The three other burials at *Cataractonium* (Grave **18024** at Fort Bridge and Graves **20200** and **21026** at Brompton West) had all been placed into the partially silted Antonine defensive and boundary ditches, which may have represented derelict land and cannot be regarded as domestic locations. The seventh individual was found in a small grave at Bainesse Cemetery (Grave **222**).

In addition to these burials, foetal, neonatal and infant remains were found buried with other individuals in three graves. At Brompton West, a perinate had been buried just above an adult female in Grave **20532**, possibly suggesting that the mother had died at the same time as the baby, perhaps during the birth. At Brough Park, cremation Grave **6785** included a tooth from an infant mixed with the remains of other individuals; however, this mixture of remains could have been the result of use of a common pyre-site (*ustrinum*) rather than intentional. Finally, disarticulated bones from perinates were found in several non-funerary contexts at *Cataractonium* and in Graves **48** and **186** at Bainesse Cemetery, indicating the former presence of other disturbed burials.

The diverse treatment of perinates during the Roman period at Catterick suggests that there was no 'normal' accepted tradition in this area for dealing with their remains. In the cases where they were laid to rest with other individuals (possibly their mothers or other relatives), they may effectively have shared in the 'adult' funerary rite. The two infants found buried below domestic buildings present too small a sample to suggest whether this practice had some ritual significance, social inclusion or protection (e.g. Millett and Gowland 2015; Rohnbogner 2018, 328), or perhaps occasionally represented an act of concealment. Despite widespread evidence elsewhere for such burials within houses and other structures, three interments at *Cataractonium*

placed into disused and partially silted (and quite possibly overgrown) large ditches were clearly not located within domestic premises and perhaps represent examples of disposal or concealment of stillborn or short-lived babies. A similar interpretation could be applied to baby burials were placed into boundary ditches at Wattle Syke (Martin *et al*. 2013, 66–8 and 107–8). Grave **21904** at *Cataractonium*, if located below a standing granary structure, might also fall under this interpretation. In contrast, there were examples of more formal, and presumably more public, funerary rites for slightly older infants (1–12 months), including an inhumation at the Bainesse Cemetery (Grave **222**) and a cremation burial at Brough Park (Grave **6785**).

The small number of perinate and infant remains found by the A1 scheme excavations is of interest. Although poor soil conditions may have resulted in loss of the delicate bones, as may be represented by some of the smaller 'empty' graves at Bainesse Cemetery, this does not account for the small number of remains found at *Cataractonium*. At Bainesse, the recent excavations generally did not examine back-plot areas of the roadside settlement, and it may be that this was where the majority of infants were interred. Alternatively, it could be that most infant burials were placed in peripheral areas that have yet to be identified, similar to the situation at Healam Bridge.

Magic nails?

As discussed by Croom (Chapter 8), cremation burials at Bainesse Cemetery and *Cataractonium* contained iron nails of varying sizes. Some were of sufficient size that they must have been deliberately collected from the pyre-site for inclusion in the burial, most notably a single, gently bent nail that measured 130mm long, which was found carefully placed next to the cinerary urn in Grave **6785** at Brough Park. In addition, very long nails in inhumations may not have formed part of a coffin but instead have been added as grave goods. The deliberate inclusion of nails in both cremation burials and inhumations has been noted elsewhere in the Empire (Alfayé Villa 2010, 428–9, figs 11–12). At Heslington East in York, groups of iron nails were found around the heads of two burials, and in one case it was suggested that three particularly large examples had been used to pin the head to the ground (Roskams and Neal 2013, 116; Holst 2013, 760). Iron was considered to have the power to both repel and restrain supernatural forces, while nails, with their ability to fix things in place, were used in both magic and medicine (*ibid*., 432 and 441). The inclusions of nails in burials may thus have represented a type of amulet designed to protect either the living or the dead.

'Ritual killing' of objects

The destruction of pipe-clay figurines on funerary pyres, as evidenced in cremation Grave **20106** at Brompton West, is an indication that these were objects of devotion personal to the deceased, and no longer required by those who remained. The incomplete nature of the figurine at Brompton West may have been deliberate. At St Dunstan's Terrace, Canterbury, the head had been removed from an unburnt Venus figurine before it was placed in a cremation burial (Weekes 2017a, 107). Other overtly religious objects could be placed in graves and removed from the realm of the living, such as the altar placed in a burial at Catterick Bridge during the later 4th or 5th century (grave 679; Wilson 2002a, 202). The presence of broken stone objects in graves at Bainesse Cemetery, including a whetstone in Grave **195** and a quern in Grave **202**, was possibly deliberate, given the lack of evidence for refuse disposal in the cemetery area and its distance from areas of habitation. The fragmentation of these objects may have followed the pattern of treatment of more mundane objects that were also 'ritually killed' prior to burial (Weekes 2017a, 107).

As discussed previously, the most common class of object found within graves that appeared to have been deliberately damaged was pottery vessels, and other vessels that had been deliberately smashed either on the ground surface or into the grave during the funeral. Similar rituals, perhaps conducted at the side of the pyre rather than the graveside, may have resulted in some of the fragmentary (and usually burnt) vessels found in several of the cremation burials at Bainesse Cemetery and Brough Park. The group of glass fragments from several different vessels found in inhumation Grave **183** at Bainesse Cemetery (Cool, Chapter 8) may also come under this category of 'killed' object and incorporated some ritual significance. Comparisons can be made with the Roman town of *Margidunum* in Nottinghamshire, where the neck of a glass flagon had been placed in the centre of an otherwise-empty cist suggested to have been a cenotaph (Cooke 2014, 122–3).

Paying the ferryman

The presence of coins in Roman burials, especially those where the coin is placed in the mouth of the deceased, is generally considered to represent the fee payable to the ferryman Charon in order to cross the River Styx on the way to the afterlife. Philpott (1991, 214–6) also notes the possibility that in some cases it represented a gift to the gods or perhaps a token payment to the dead in lieu of other grave goods. However, the archaeological evidence suggests that provision of such a fee (whatever its purpose) was not regarded as a necessity and is only found in a small proportion of early (and more certainly

pagan) Roman burials in Britain (e.g. Philpott 1991, 210–12; Watts 1993).

The individual in Grave **20417** at Brompton West had a neat stack of nine coins in their mouth (Brickstock, Chapter 8). The practice of inserting a coin into the mouth of the deceased usually saw one, and occasionally two coins being used. Nine is unprecedented, although the low value of the coins means that the number may reflect the effects of Late Roman inflation (Philpott 1991, 213) rather than suggesting that the individual had done something in life that would require greater payment to the ferryman.

The inclusion of food

Although preservation conditions in many burials at Bainesse Cemetery mitigated against its survival, even where preservation of bone on the A1 scheme was good there was, as noted above, a paucity of evidence for the inclusion of animal foodstuffs in burial rites. This is unusual in comparison with the corpus of evidence from other Roman burials. Therefore, the fact that two broadly contemporary 3rd-century graves in two locations on the scheme contained the remains of galliforms, most likely domestic fowl, is perhaps of note. The inclusion of food in Roman burials is not uncommon. Indeed, the deposition of domestic fowl in graves seems to be particularly common between the 2nd and 4th centuries, with fowl becoming the most common form of food offering in graves across Britain by the 4th century (Philpott 1991, 202–4), as well as within the wider Roman Empire (e.g. Cooke 1998, 231; Groot 2008, 192). In northern England, small numbers of chicken burials have been identified at several sites in York (Wenham 1968; Caffell and Holst 2012b; Keefe and Holst 2018). Of the nine articulated examples found in graves at Trenholme Drive, there appeared to be no correlation between the presence of such remains with the age or sex of the human remains (Morris 2011, 106). At Wattle Syke in West Yorkshire, five of the later Roman burials also contained chicken remains (Martin 2013, 102). Here, the chickens did not form a substantial portion of the domestic faunal assemblage, leading to the suggestion that the consumption of chickens was limited to special events, including burial (Richardson 2013b, 234). Similar trends have been observed elsewhere (e.g. Lauwerier 1993).

The inclusion of domestic fowl in Grave **240** at Bainesse Cemetery and Grave **6790** at Brough Park is perhaps significant as, aside from the inclusion of domestic fowl and the roughly contemporary time of death, the two burials have little in common, most notably the fact that one was an inhumation and the other a cremation. Why would two seemingly completely different burial rites both include parts of a chicken? The inclusion of chickens in graves has been discussed in terms of their association with the Roman god Mercury, representing new birth and rebirth at sunrise (see Booth *et al*. 2010; Best and Mulville 2018), which perhaps is linked to the inclusion of young juveniles within both of these graves.

Light, sound and scent

Evidence recovered on the A1 scheme and from other funerary sites across Roman Britain and beyond demonstrates that burial rites were also designed to stimulate the senses. They used light, sound and smell as part of the experience for the living (e.g. McKinley 2006, 84–5). In many modern religious practices these qualities are a defined part of the burial rite and, as such, should they be observed in the archaeological record, they might support the identification of past religion and beliefs. Light is a difficult aspect to consider and its consideration falls outside of the scope of this volume, given that none of the evidence recovered from the A1 scheme burials provides definitive evidence for the manipulation of natural light or the provision of artificial light. However, there is evidence that suggests sound and scent were considered in Roman burial practices in this area.

Two graves on the A1 scheme contained collections of objects that might have played a role in the creation of sounds during burial rites. Grave **20476** at Brompton West contained a number of circular metal objects, including several items that had been threaded onto a penannular brooch, which would have made a 'jangling' noise when moved and/or deposited in the grave. Similarly, a group of amulets placed in Grave **148** at Bainesse Cemetery may have served as items for sound creation in addition to or as part of their amuletic role. While the creation of sound may have not been the primary desired output, the smashing of ceramic beakers in Graves **64** and **229** at Bainesse Cemetery would have contributed to the burial rite and the experience of those attending. Both Graves **64** and **229** are thought to have included non-adults and both were interred in coffins, though it is not clear what implication, if any, this has. Elsewhere, though not evidenced on the A1 scheme, paired strap-ends on military belts, for instance, have no obvious function but would have 'jangled' together (James 2004, 61).

The use of scented white flowers in two burials at *Cataractonium* and potentially the unguent flask at Bainesse Cemetery, which is likely to have contained scented liquid, as well as evidence from many other burial sites in Roman Britain, demonstrates that the use of smell was a common practice, though this may have served a practical purpose rather than being a demonstration of any particular ritual or belief. For instance, in the case of those being interred some time after death or in summer

months, it may have been beneficial to mask the smell of decay. The evidence for the use of sound and smell in Roman burial rites on the A1 scheme is scant but adds to the national corpus of information for these often-invisible aspects of burial practices, which remains an area in need of further research both in Britain and across the Roman Empire.

Can we identify Christian burials?

We might expect to be able to recognise the advent of Christianity in the evidence for specific burial practices in the later Roman and early medieval period. However, the evidence for these practices can be masked or mimicked by preservation biases and/or contemporary individual and group preferences in burial activities that might usually be associated with Christian burial. In Christian cemeteries, we would expect to see west to east orientation of graves, specific decorative motifs, respect for existing west to east burials, supine and extended body position, an absence of decapitations, 'plaster' burials, and the presence of neonates or children under 6-months old within a cemetery setting. In addition, coffins and an absence of grave goods would be apparent (Watts 1991; 1993; Keegan 2002, 111). However, the population of Britain did not become Christian overnight, and variation in the degree to which Christian rites were practiced as part of burial is evidenced to varying degrees in later Roman cemeteries in Britain, as is continuity in the use of some pagan practices.

Late Roman cemeteries displaying Christian attributes are largely absent from northern England, and there are certainly no parallels to those seen in southern England at large urban sites, such as Butt Road, Colchester (Crummy *et al*. 1993), or smaller settlements, such as Bletsoe in Bedfordshire (Dawson 1994), where it is clear that Christian burial was practiced.

By the 4th century AD, at least part of the population of *Cataractonium* and Bainesse would have identified as Christian and practiced Christianity in life. However, while the burials in this area fulfil some of the criteria that are suggested to indicate Christianity by Watts (west to east grave orientation, supine extended body position and the use of coffins; Watts 1993, 192–8), when all funerary evidence is considered it does not support a definitive identification of Christianity at sites on the A1 scheme through distinct burial practices. Instead, there is strong evidence that pagan burial practices continued throughout the Roman period in this area, perhaps alongside, or even integrated with those associated with Christian beliefs. Furthermore, a stone block bearing a possible chi-rho graffito that was found incorporated in the bathhouse at *Cataractonium* remains the only firm evidence for Christianity in the area to date (Thomas 1981, fig. 5.11; Wilson and Wacher 2002, 89).

CONTINUITY AND CHANGE

Wider patterns across Roman Catterick

Comparison of contemporary funerary practice across multiple sites within a small area can demonstrate considerable variation and is important evidence for the complexity of the society which created them (e.g. Catalano *et al*. 2017). Amalgamation of widely dispersed and diverse burial assemblages as 'populations' or 'cemeteries' for analysis (e.g. Chenery *et al*. 2011) may be a fatally flawed analytical strategy. The combined population within a large cemetery can also serve to mask the presence of different sections of society, as discussed above with reference to individuals buried with crossbow brooches at the large Lankhills cemetery in Winchester (Clarke 1979; Booth *et al*. 2010), yet similar burials at *Cataractonium* lay within their own distinct small cemetery away from the wider population and these individuals could be seen to represent a distinct section of society, probably military officers or civilian officials (Eckardt *et al*. 2015).

Apart from Bainesse Cemetery, all of the burials from the A1 scheme, and also those from previous excavations at Catterick, have occurred either singly or in small groups and exhibit a wide range of apparently 'discrete' burial practices. Even within Bainesse Cemetery, there are burials that differ from the norm, such as the cluster of cremation burials and those buried in cists who were either placed prone or decapitated. As discussed above, private family plots have been previously suggested for Roman settlement sites, but little research has been carried out into the differences between such plots and how these might reflect differing social status, traditions and indeed origin between the various groups using them.

Prior to the A1 excavations, the limited Roman funerary dataset from the Catterick area suggested a relatively limited repertoire of burial rites, with rare examples of cremation burial. The vast majority of inhumations comprised interment in a supine extended position, sometimes in a nailed coffin and/or with the grave lined with stones. The individual was often accompanied by pottery vessels, coins, a variety of items of personal adornment, such as bracelets or beads, but almost never wore nailed footwear. The new, and far more diverse, evidence from the A1 scheme, derived almost entirely from new areas around the Roman settlements, has served to demonstrate how inaccurate this impression was.

The cumulative funerary evidence from Catterick therefore has an enhanced group value for the study

of variability in the Roman burial record and how this reflects upon the society that created it. However, given the variety of rites apparent across both the recorded burial areas and throughout time, it is unfortunate that few of these groups have been recorded in their entirety (Booth 2017, 198). Comparing the results from all Roman burial sites across the Catterick area excavated to date, several broader patterns are apparent. The large number of Roman burials now known from the area (over 400) serves to highlight that these differences are unlikely to be the result of excavation of very small and atypical samples, although clearly the observations described here may be changed by future discoveries.

Apart from the small cemetery at Hollow Banks Farm, there are other small groups of burials in the area of the A1 scheme that stand out as 'different'. It is immediately apparent from Thompson's (2002) table of finds from the burials at *Cataractonium* and Bainesse that those previously excavated at the Yorkshire Water Depot stand out, as they are lacking grave goods entirely, and indeed it is possible that the burials are post-Roman in date (Wilson 2002a, 241). Other groups of burials in the area show more subtle variations in treatment of the dead, and the A1 scheme has provided at least two new distinctively 'different' groups. One of these was the plot at Brough Park that exclusively contained cremation burials, including at least one example of a possible *bustum*, a practice not previously recorded in the Catterick area and likely to be representative of the 'northern military tradition' of funerary activity. The second notable discovery is the graves at Scurragh House (both cremation burials and inhumations), which had been marked above ground by small structures represented by square arrangements of stake-holes, a practice for which no close British parallel has yet been identified. As discussed above, this group of burials can also, but considerably more tenuously, be suggested to be representative of the wider military community, in this case possibly retired soldiers and their families, on the basis of the presence of 'late' cremations and the discovery nearby of two altars dedicated to Mars (and more specifically in one case to Mars Condates).

Burial societies, whereby members paid subscriptions to ensure that their fellow-members gave them a suitable send-off, are a well-known phenomenon elsewhere in the Empire and were institutionalised in the military. As a result, they are highly likely to have operated in Roman Britain. The rules of a burial society have survived from *Lanuvium* near Rome, and show that they were formal and sophisticated, defining regulations and conditions of membership, as well as benefits and fines for the members. In addition, such societies served as social clubs, with regular feasts and meetings (Hopkins 1983, 213–15). To date, there is little direct evidence for such institutions operating in Roman Britain, although a concentration of memorials to centurions at York has been suggested to indicate the site of a society burial ground (RCHME 1962, 67). More tangible evidence is provided by a tombstone from Housesteads, which appears to commemorate a civilian burial society (RIB 1620; Collingwood and Wright 1965, 516; Allason-Jones 2013, 82).

It is quite likely that, in addition to Hollow Banks Farm, where the graves are considered to represent members of such a burial society, other burial plots in the Catterick area represent groups distinguished by profession, social status, religion/belief or origin, rather than purely familial connections. Despite the 'international', and likely official or military credentials of the Hollow Banks Farm group, there were some suggestions of 'local' and 'familial' burial practices that could be identifiable across other groups (Eckardt *et al*. 2015). It is already apparent that there may be localised patterning of certain burial practices within Bainesse Cemetery, most obviously a clustered group of cremation burials, which suggests that this cemetery effectively represents a palimpsest of small plots (either society or family) within a single area. This format, whereby relationships between such plots may be identified, can give insights into the interactions, at least in death, between the different social groups creating them.

Transition from 'Late Roman' to 'Anglo-Saxon' burials

As recently as 2002, it was observed that "if we had in the north the extensive Roman cemetery excavations conducted elsewhere in England and on the Continent, then it might be possible to chart mortuary practice from the Roman into the Anglo-Saxon period in a more illuminating fashion. As it is we have….no perceived relationship between Roman and Anglo-Saxon burial grounds" (Cramp 2002b, 123). Given its wealth of funerary evidence for both periods, the Catterick area is key for understanding this transition in northern England (Wilson 2002a, xviii; Eckardt *et al*. 2015, 218), and the A1 scheme has made a considerable contribution towards this goal. The extended timespan for 'Roman' burial at Bainesse, as evidenced by the results of the radiocarbon dating programme, has narrowed the chronological gap between the Roman and Anglian burials known in the area. This has laid the groundwork, from one side of that gap at least, to allow future chronological modelling and enhanced understanding of this transition; however, to achieve this, a similar series of radiocarbon dates for the Anglian cemetery populations from the area is required, which lies beyond the scope of the current study.

By the 4th century, the relationship between cemeteries

and urban areas had begun to change, with burials becoming more common in intra-mural locations across the north-western provinces, what Pearce (2013a, 444) has described as the 'turning inside out' of the ancient city. This phenomenon at *Cataractonium* may be represented by the assemblage of disarticulated bone (from at least two individuals) found in the 'dark soil' layer (**1405**) overlying the latest stratified Roman structural deposits at Agricola Bridge. Calibrated radiocarbon dates from two different individuals span the Late Roman and early post-Roman periods, and could extend into the beginning of the Anglian period for the area (although the latter has yet to be explored in terms of scientific dating); however, given that the two dates centre on the 5th century (cal AD332–535 at 94.8% confidence, SUERC-75051; and cal AD320–560 at 93.9% confidence, SUERC-75053), the burials seem most likely to represent the de-structuring of the divide between urban and extra-mural areas in early post-Roman times. The fact that these bones, which presumably represent disturbed burials, were found adjacent to the disused (or repurposed) bathhouse building may reflect a wider phenomenon of burial in or adjacent to disused public buildings. This has been noted at other sites across the north, such as at Chesters fort where 33 human skeletons were found in the bathhouse, three skeletons within the apse of the Temple of Antenociticus at Benwell in 1862, and burials in the headquarters building in the fort at South Shields, providing further evidence for the break-down in the division of space between the living and for the dead at this time (Macdonald 1931; Simpson and Richmond 1941, 38; Bidwell and Speak 1994, 105 and 143–4).

On the other hand, perhaps the most conspicuous evidence for continuity of Late Roman burial traditions into the post-Roman period is our continuing inability to tell the two groups apart, except where there is compelling stratigraphic evidence or distinctive features that are likely to be of post-Roman date, such as long-cist graves and the inclusion of quartz pebbles, as seen at Maryport on the Cumbrian coast (Mason 2012, 20–2). Radiocarbon dating of both 'new' and 'old' burials has begun to address this issue in the North East at South Shields fort (Bidwell and Speak 1994, 45–6 and 265), in Yorkshire (Roberts 2014, 184–7) and the Somerset sites of Winthill and Bradley Hill (Aston *et al*. 2011, 186–7; Gerrard 2011). However, particularly for older excavations, it is usually only burials already suspected to be post-Roman on other grounds that are likely to benefit from such dating, and many more remain unidentified. This also applies to Catterick, where a number of burials from older excavations are currently ascribed to the 4th century but could equally be of 5th century date.

Some 'Roman' material culture continued to appear within post-Roman burials, indicating that industry did not simply cease in AD410. Ironworking and leatherworking clearly continued, as evidenced by the occurrence of nailed footwear in possible 5th-century burials at Bainesse, Healam (Ambrey *et al*. 2017, 62), and further south at Parlington Hollins and Ferrybridge in West Yorkshire (Holbrey and Burgess 2001, 102; Duncan *et al*. 2005, 157). Nails were still being made and used in coffins, which also provide evidence for continued woodworking. The extent to which Roman pottery production continued into the 5th century is unclear (Evans 2000; Gerrard 2014; see also Cool 2014, 16); but in any case, pottery is conspicuously absent from the latest 'Roman' burials at Catterick. Cool (2004, 20–1) has argued for developments in society and material culture in the former Roman province during the 5th century as part of a continuum with what went before (and perhaps what came after), rather than any abrupt break. This continuing development serves to obscure any division in burial practice between the 'Late Roman' and 'early post-Roman' periods, as much as in any other aspect of the archaeological record.

One aspect of early post-Roman funerary behaviour relevant to the A1 scheme is worthy of note. Mineralised remains of medium to coarse fabrics found adhering to the outside surfaces of hobnails in a burial at Healam Bridge and also in Grave **217** at Bainesse Cemetery, both of early post-Roman date, probably represented a blanket or cloak wrapped around an already clothed body and provide new evidence for burial practice at this time (Walton Rogers 2012; Ambrey *et al*. 2017, 143).

The A1 scheme produced very few early medieval burials compared to previous excavations in the area, with two (Graves **31507** and **31532**), of Anglian and later Anglo-Saxon date respectively, found at Scotch Corner and a single Late Anglo-Saxon burial (Grave **175**) found at Bainesse Cemetery. Given the presence of only one Anglian burial, it is therefore necessary to use examples from previous excavations to consider any aspects of continuity from the Roman and early post-Roman to Anglian-period burials in the area.

At Anglian cemeteries from both Catterick Racecourse and Hollow Banks Farm, many of the skeletons lay in an extended position in a rectangular or sub-rectangular grave and, where no Anglian grave goods were present, many of these later burials were indistinguishable from similar burials at the Roman cemetery at Bainesse.

Partial cobble grave linings, similar to those found on the A1 scheme at Bainesse Cemetery and Brompton West, were present in Anglian graves at Hollow Banks Farm (Speed 2002), where some of the burials may also have contained non-nailed coffins or at least a timber grave

lining. Breakage of pottery vessels while the grave was still open occured at the same site, and in many of the Anglian burials only parts of pottery vessels were present, reminiscent of the 'redeposited' partial vessels found in Bainesse Cemetery.

There is a significantly increased incidence of 'crouched' Anglian burials to the north of the Humber, which has previously been cited as evidence for a return to, or survival of, 'native' practice, but Lucy (2000) has shown that, at least in East Yorkshire, this phenomenon mainly appears in 'Final Phase' cemeteries of the 7th and early 8th centuries and hence cannot there be seen as continuity of a pre-Anglian practice. However, at Catterick, a considerable number of early Anglian burials (all from previous excavations in the area) contain flexed (as opposed to crouched; see Chapter 1) skeletons, and it is conceivable that this represents a continuation of the trend seen in Late Roman and early post-Roman burials (see Chapter 3).

What of the people themselves? Genetic analysis of six Roman burials from York compared to an Anglo-Saxon individual from Norton on Teesside, together with studies of modern regional genomes, has suggested an input from migrants to the north-eastern counties during the early medieval period (Martiniano *et al*. 2016, 16). Although people of non-white ancestry were probably resident in Anglo-Saxon England (Ward 2018), there has hitherto been limited evidence of their presence (see Chapter 6). In this context, the presence of a person of possibly mixed-race ancestry buried at Scotch Corner in the 8th or 9th century (see Chapters 5 and 6) is of considerable interest and merits future research.

BEYOND

Two main conclusions can be drawn from the results of the A1 scheme that have a wider application to Roman funerary studies. The first is the significant impact that the extensive application of scientific techniques (in this case principally radiocarbon dating and subsequent modelling of the results) can have upon interpretation of the archaeological data, although, as discussed in Chapters 3 and 10, there is currently some uncertainty as to how to interpret and utilise such an innovative dataset. Nevertheless, the results from modern projects where such techniques have been employed calls into question the chronology of some more 'traditionally' dated Roman cemeteries, which have mostly been attributed using associated ceramics (Smith *et al*. 2018b, 208–9), some of which may have been heirlooms of considerable age when buried. The results from Bainesse Cemetery in particular, where the deposition of pottery vessels into graves was shown to be a relatively brief episode during the cemetery's use, raises the possibility that other sites that have been dated on the basis of pottery found in a small proportion of the burials may in fact have had equally long histories.

Secondly, and perhaps more fundamentally, the examination of a significant number of groups of burials from both old and new excavations in a small area has shown that, as well as changing through time, contemporary funerary practice (particularly in the 4th century) could vary greatly across quite small distances. Hence, examination of even quite large numbers of burials at a single location does not provide a picture of 'normal' funerary behaviour for the immediate area, nor across larger regions. Several examples of this phenomenon have been noted elsewhere, including the unusually well-furnished 4th-century cemetery at Lankhills in Winchester and the 'headless Romans' at Driffield Terrace in York (Hunter-Mann 2006; Booth *et al*. 2010; Caffell and Holst 2012b), both of which stand out as different when compared to nearby cemeteries associated with the same settlements. Roman funerary studies have traditionally aggregated datasets in an attempt to define patterns of funerary behaviour through time or between different areas or sites, with varying success (e.g. Philpott 1991; Keegan 2002). As increasing quantities (and types) of evidence become available, it is becoming clear that the picture is far more complex (Smith *et al*. 2018b) and new approaches may be required in the future.

REACTIONS TO DEATH IN THE VALE OF MOWBRAY

Why are we observing such unprecedented variation in burial practices within a small geographic area, especially during the Roman period? It is clear that there is an infinite set of factors that determine reactions to death that include age, sex, individual identity, and status to mention but a few. However, interpretation can be teased out of the analysis of the people and their associated material culture that have been recovered by the A1 scheme.

Some of the differences in burial rites observed at Catterick may have resulted from the military/civilian divide. The military in the northern zone of the province had its own funerary traditions, particularly a continuing preference for cremation burial in the Late Roman period (Cool 2004, 308). Greene (2015, 143) has shown that, on the basis of diploma evidence, soldiers were more likely to marry from their home tribe or within their immediate military community than form a liaison with a local woman, and this could explain some of the conservatism of funerary behaviour amongst army personnel. In addition, occasional influxes of fresh military personnel, particularly from the Danubian provinces, may have served to reinforce this distinctive military tradition, and

such a person may be represented in cremation Grave **272** at Bainesse Cemetery, which contained a continental P-shaped brooch considered most likely to have been worn by a soldier (Chapter 8).

Another factor is the influx of people into and through the Catterick area who would have brought their own traditions with them from other parts of Britain, as well as Europe and possibly Africa. This process would have taken place on a scale not previously experienced, driven and supported by the establishment of roads throughout Britain, including Dere Street, the major Roman south to north route. This phenomenon has been used to explain the previously excavated 'exotic' well-furnished graves at Hollow Banks Farm, where stable isotope analysis has shown that many of the deceased are likely to have had a diverse continental origin (Eckardt *et al*. 2015). On the A1 scheme, we have limited evidence from the funerary contexts studied to confirm the presence of people visiting and settling around Catterick area from outside the area. However, forthcoming volumes that consider the settlement and economic evidence (Fell forthcoming; Ross and Ross forthcoming) will build on the evidence presented to further address this research topic.

In the Catterick area, there could be relative conformity in burial rite within some of the burial groups, such as use of the four-stake structures around graves at Scurragh House (possibly representing discharged veterans and their families), the exclusive use of the cremation rite, (including a *bustum*-type) at Brough Park in probable 'military' burials, the cluster of cremation burials (perhaps of members of a military community from Central Europe) at Bainesse Cemetery, the continuity of relatively sparsely furnished inhumations and the absence of coins over five centuries at Bainesse, and the lack of grave furnishing amongst the undated burials at the Yorkshire Water depot, which are of possible post-Roman date. For the Late Roman period (4th and early 5th centuries), some wider patterns in the deliniation of burial areas can be suggested from the archaeological record. The back-plot burials found by the A1 scheme at Brompton West, although diverse, present an example of what might be expected in similar burials outside any town of this period in Roman Britain, with moderate levels of coffin use, nailed footwear and some grave goods (but no pottery vessels), although with occasional evidence of possible familial traditions, such as the two graves containing fish hooks. Such evidence might be considered to represent 'normal' funerary behaviour in a moderately prosperous suburban environment.

For Bainesse, Wilson (2002b, 469–71) presented a model of decline in the later Roman period, perhaps as a result of development of the villa at Marne Barracks (although this identification has now been queried; see Sherlock 2017), with the majority of the occupants of the settlement becoming tenants of the villa owner or peasants (*coloni*) tied to the land. Although this pattern appears to be reflected at Bainesse Cemetery, where deposition of grave goods rapidly declines in the 4th century, it should be noted that even in earlier centuries the majority of the grave goods recorded were of low intrinsic value, although they may have been of high personal value. It is more likely that local beliefs and funerary customs changed, perhaps relating to adoption of Christianity by part of the population, resulting in a cessation of deposition of grave goods.

Returning to *Cataractonium*, a third zone appears in the 4th century, which is represented by the burials previously excavated at several sites in its north-eastern quadrant. As discussed above, these sites were linked by an apparently common funerary tradition that comprised the presence of pottery and glass vessels, the absence of nailed footwear, moderate provision of a variety of other grave goods, and possibly the unusual burial practice of opposed pairs of graves. At these sites, the most common burial orientation was with the head to the north or north-west (60% at the Thomas Armstrong factory, 48% at Catterick Bridge and at least 36% at Hollow Banks Farm), contrasting with a strong preference (70%) for placing the head to the west in the late 3rd- to 4th-century inhumations at Brompton West and inhumations of all periods (62%) at Bainesse Cemetery. Despite several previous excavations in the north-eastern quadrant of the Roman town, its function and economic basis still remains unknown, although Wilson (2002a, 192) has suggested the establishment of riverfront wharfs during the early 4th century at Catterick Bridge. It is quite possible that personnel and their families, whether military or civilian, would have been brought into the area to construct and operate such facilities, and this could explain the apparent enclave of different burial rite represented by the groups of burials in this part of the town. Equally, and given the presence of a number of individuals of continental origin, these people may represent a unit of the Late Roman field army (*comitatenses*) as suggested by Eckardt *et al*. (2015). Although the *Notitia Dignitatum Occidentis*, a list of senior military and civil offices throughout the Western Empire thought to have been compiled around AD395, lists the commanders of many garrison units (*limitanei*) and where they were stationed, the location of the home-bases (if any) of the mobile field army units are not given (Collins 2012, 38–51). Equally, many military sites known or likely to have been occupied in this period, such as Piercebridge and *Cataractonium*, are not listed, and it is entirely possible that they were occupied by units of the *comitatenses* when not on campaign. Of possible note in

this context is Cool's (2002, 32) observation concerning the large number of horse-harness fittings found in later 4th-century contexts at Catterick Bridge, which are contemporary with many, if not most of the burials found in this part of the town. Despite the common rite, the qualitative difference of the grave goods between these sites could then be explained as that between 'officers' at Hollow Banks Farm, accompanied by fineware pottery and probable badges of rank, such as crossbow brooches and belt sets, and 'other ranks' at the other sites who were buried with coarseware pottery and few other grave goods.

The Roman burial groups excavated in the Catterick area by the A1 scheme, when compared to those from older projects, have provided a demonstration of just how considerable information on patterns and changes in funerary ritual can be gained when larger datasets are compared to funerary evidence both locally and from across Roman Britain. The results demonstrate how diverse burial rites could be, even during the same period, and hence how wide-ranging the beliefs and traditions behind them may have been. In contrast, it is notable that there could be relative conformity amongst specific groups of burials, suggesting particular sections of Roman society at Catterick shared common funerary beliefs and locations, which differed from those of members of other sections of the same community. This implies that Roman society at Catterick was extremely heterogeneous, at least in death, signifying that the details of burial practices appear to be determined by individuals and/or group-based beliefs and preferences. This may mirror the situation in 18th- and 19th-century Britain, where divided Christian traditions meant that even quite small communities could have varied ideologies and social customs, and often buried their dead in several separate cemeteries. In archaeological terms, however, their houses and workplaces, and in many cases even their places of worship and cemeteries, would be largely indistinguishable. From the results of the A1 scheme, it appears that this diversity was not due to ethnicity, but more likely religious belief, social status and profession.

FUTURE RESEARCH

While the A1 scheme resulted in the excavation of 308 burials, it should be noted that these spanned a period of 3000 years. For a well-populated area, at least for the later Iron Age (for which no certain burials were recorded) and Roman period, these burials must only represent a small percentage of the population. So, where is everyone else? The unprecedented variation seen in burial practices, especially in the Roman period, raises new questions regarding reactions to death, and how we can use data arising from the study of funerary assemblages to further understand these reactions.

As noted in Chapter 10, mitochondrial DNA analysis is already planned to assess whether there are any genetic relationships between the five individuals found in the group burial from Brompton West. The extent of movement of people at Catterick could be further investigated using strontium, oxygen and lead isotope analysis and may provide additional clues as to the observed variations in funerary traditions. Migration and the ethnicity of the individuals of possible African or mixed-ancestry origin identified from the scheme could also be explored using single nucleotide polymorphism (SNP) DNA analysis.

The dietary stable isotope analysis carried out on the skeletons from the A1 scheme identified four Roman individuals with carbon and nitrogen values that were sufficiently dissimilar from the remainder of the studied Catterick population that they may have originated outside the area. Together with the individuals of possible African or mixed origin, whose dietary data lay within the 'normal' Catterick range, but who could still have been born elsewhere, these skeletons would make ideal candidates for other forms of stable isotope analysis (such as oxygen/strontium and or sulphur) in order to investigate their geographic origins, should sufficient suitable sample material survive.

The extended date range for 'Late Roman' burials at Bainesse Cemetery raises the question as to when the transition to 'Anglian' burials in the area occurred. Was this a gradual process or more abrupt, and does the change represent replacement of a 'Roman' population by an incoming 'Anglian' population, or modification of the funerary behaviour by an 'indigenous' population? To date, despite a large number of early Anglian burials having been excavated at Catterick, almost none have been radiocarbon dated and the beginning of this burial period remains undetermined.

The greatly expanded funerary dataset that now exists for the Catterick area as a result of the A1 scheme is certain to continue to challenge and change our understanding of the treatment of the dead through its use in future research, as new hypotheses are proposed, and new analytical techniques are developed.

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APPENDIX A
DATA RESOURCES

Data and resources that accompany this volume are available via the Archaeology Data Service (ADS) via the following digital object identifier:

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A1 SCHEME SITE LOCATIONS AND CONCORDANCE

Table B.1: A1 scheme site locations, field numbers and chainage concordance.

Field number	Trench	Location	Parish	NGR	Chainage
127	-	-	Aiskew CP	SE 2803 9082	20167-20981
131	-	-	Aiskew CP	SE 2782 9129	21120-21300
132	-	Little Holtby	Ainderby Miers with Holtby CP	SE 2775 9155	21590-21775
133	-	Little Holtby	Ainderby Miers with Holtby CP	SE 2765 9167	21775-22050
134	-	-	Ainderby Miers with Holtby CP	SE 2739 9205	22050-22440
136	-	-	Ainderby Miers with Holtby CP	SE 2717 9235	22440-22790
138	-	-	Ainderby Miers with Holtby CP	SE 2703 9256	22790-23000
140	-	-	Ainderby Miers with Holtby CP	SE 2687 9271	23000-23150
141	-	-	Ainderby Miers with Holtby CP	SE 2681 9292	23150-23425
143	-	-	Ainderby Miers with Holtby CP	SE 2656 9325	23590-23850
145	-	-	Ainderby Miers with Holtby CP	SE 2651 9347	23900-24240
147	-	-	Ainderby Miers with Holtby CP	SE 2613 9402	24240-24875
148	-	-	Ainderby Miers with Holtby CP	SE 2622 9385	24875-25160
150	-	-	Hackforth CP	SE 2553 9487	25340-25830
151	-	-	Appleton East and West CP	SE 2534 9526	25830-26275
152	-	-	Appleton East and West CP	SE 2516 9556	26280-26490
153	-	-	Appleton East and West CP	SE 2505 9574	26490-26775
154	-	-	Appleton East and West CP	SE 2484 9601	26780-27180
155	-	-	Catterick CP	SE 2459 9625	27180-27710
156	A	-	Catterick CP	SE 2413 9713	28540
157	-	Bainesse	Catterick CP	SE 2413 9654	27910-28050
158	-	Bainesse	Catterick CP	SE 2392 9686	28050-28370
159	-	Bainesse	Catterick CP	SE 2386 9699	28370-28400
159	A	Bainesse	Catterick CP	SE 2393 9727	28700
160	-	Bainesse	Catterick CP	SE 2379 9710	28390-28610
160	Tr. 1	Bainesse	Catterick CP	SE 2379 9693	28390-28530
162	-	Bainesse	Catterick CP	SE 2373 9720	28610-28670
163	C	Bainesse	Catterick CP	SE 2372 9728	28650-28775
163	N	Bainesse	Catterick CP	SE 2366 9734	28775-28830
163	S	Bainesse	Catterick CP	SE 2383 9721	28580-28630
163	E	Bainesse	Catterick CP	SE 2382 9738	28840
163	V	Bainesse	Catterick CP	SE 2388 9735	28600-28775
164	-	Bainesse	Catterick CP	SE 2359 9748	28850-29150
164	S	Bainesse	Catterick CP	SE 2369 9744	28810-28870
165	-	Bainesse	Catterick CP	SE 2338 9767	29175-29300
166	-	-	Catterick CP	SE 2324 9771	29300-29500
167	-	-	Catterick CP	SE 2299 9789	29500-29800
170	-	-	Catterick CP	SE 2281 9831	29850-30290
171	-	-	Catterick CP	SE 2267 9823	29800-30290
172	Main area	Cataractonium	Brough with St. Giles CP	SE 2251 9893	30280-30860
172	N	Cataractonium	Brough with St. Giles CP	SE 2243 9886	30740
172	V	Cataractonium	Brough with St. Giles CP	SE 2247 9893	30830
172	BH20111	Cataractonium	Brough with St. Giles CP	SE 2250 9896	30840
172	BH20111A	Cataractonium	Brough with St. Giles CP	SE 2250 9896	30840

Field number	Trench	Location	Parish	NGR	Chainage
174	Main area	Cataractonium	Brough with St. Giles CP	SE 2267 9860	30300-30750
174	Tr. 1	Cataractonium	Brough with St. Giles CP	SE 2255 9897	30870
174	N	Cataractonium	Brough with St. Giles CP	SE 2260 9912	31020
174	BH20123	Cataractonium	Brough with St. Giles CP	SE 2260 9872	30750
174	BH20124	Cataractonium	Brough with St. Giles CP	SE 2260 9878	30780
174	BH19125	Cataractonium	Brough with St. Giles CP	SE 2266 9851	30410
174	ET2	Cataractonium	Brough with St. Giles CP	SE 2254 9898	30870
174	ET3	Cataractonium	Brough with St. Giles CP	SE 2254 9898	30830
175	Tr. 1	Cataractonium	Brough with St. Giles CP	SE 2245 9893	30830
175	Tr. 2	Cataractonium	Brough with St. Giles CP	SE 2245 9902	30920
175	Tr. 3	Cataractonium	Brough with St. Giles CP	SE 2245 9898	30880
175	Tr. 4	Cataractonium	Brough with St. Giles CP	SE 2245 9898	30870
175	Tr. 5	Cataractonium	Brough with St. Giles CP	SE 2245 9914	31040
175	Tr. 6	Cataractonium	Brough with St. Giles CP	SE 2235 9912	31020
175	BH20135	Cataractonium	Brough with St. Giles CP	SE 2246 9904	30930
175	BH20136	Cataractonium	Brough with St. Giles CP	SE 2245 9911	31000
175	BH20137	Cataractonium	Brough with St. Giles CP	SE 2245 9914	31050
175	FB	Cataractonium	Brough with St. Giles CP	SE 2249 9898	30880
175	BH20113	Cataractonium	Brough with St. Giles CP	SE 2245 9908	30990
176	EC	Cataractonium	Brough with St. Giles CP	SE 2248 9922	31100-31140
176	EC, N Ext	Cataractonium	Brough with St. Giles CP	SE 2247 9925	31140
176	FB	Cataractonium	Brough with St. Giles CP	SE 2253 9904	30840-30930
176	Tr. 1	Cataractonium	Brough with St. Giles CP	SE 2257 9926	31140
176	Tr. 2	Cataractonium	Brough with St. Giles CP	SE 2258 9911	31000
176	BH20138	Cataractonium	Brough with St. Giles CP	SE 2251 9909	31010
176	BH20139	Cataractonium	Brough with St. Giles CP	SE 2249 9918	31050
177/178	Main area	Cataractonium	Brompton-on-Swale CP	SE 2239 9937	31210-31400
177/178	BH20152	Cataractonium	Brompton-on-Swale CP	SE 2241 9929	31210
177/178	BH20121	Cataractonium	Brompton-on-Swale CP	SE 2237 9946	31350
179	Main area	Cataractonium	Brompton-on-Swale CP	SE 2242 9941	31210-31480
179	BH20120A	Cataractonium	Brompton-on-Swale CP	SE 2237 9941	31320
179	TP20001	Cataractonium	Brompton-on-Swale CP	SE 2245 9936	31260
180	-	-	Brompton-on-Swale CP	SE 2231 9972	31525-31770
181	-	-	Brompton-on-Swale CP	SE 2220 9995	31780-31990
182	-	-	Brompton-on-Swale CP	NZ 2216 0004	31990-32000
183	-	-	Brompton-on-Swale CP	NZ 2209 0025	32000-32270
185	-	-	Brompton-on-Swale CP	NZ 2211 0043	32270-32440
187	-	-	Brompton-on-Swale CP	NZ 2198 0056	32440-32910
192	-	-	Brompton-on-Swale CP	NZ 2212 0114	33090-33130
197	-	-	Brompton-on-Swale CP	NZ 2203 0122	33220-33280
198	-	-	Brompton-on-Swale CP	NZ 2211 0130	33200-33300
199	-	-	Brompton-on-Swale CP	NZ 2206 0133	33275-33490
200	-	-	Moulton CP	NZ 2215 0146	33350-33500
201	-	-	Moulton CP	NZ 2217 0158	33500-33600
202	-	-	Moulton CP	NZ 2212 0162	33520-33720
203	-	-	Moulton CP	NZ 2209 0174	33720-33750
204	-	-	Moulton CP	NZ 2209 0186	33750-33950
205	-	-	Moulton CP	NZ 2207 0204	33950-34090
206	-	-	Moulton CP	NZ 2205 0217	34090-34220
207	-	Scurragh House	Moulton CP	NZ 2200 0222	34220-34410
208	-	Scurragh House	Moulton CP	NZ 2195 0258	34410-34700

Field number	Trench	Location	Parish	NGR	Chainage
209	-	Scurragh House	Moulton CP	NZ 2190 0286	34700-34910
210	-	Scurragh House	Moulton CP	NZ 2188 0301	34910-35090
211	-	Scurragh House	Moulton CP	NZ 2190 0318	35090-35300
213	-	-	Moulton CP	NZ 2182 0336	35320-35410
214	-	-	Moulton CP	NZ 2179 0354	35410-35695
215	-	-	Moulton CP	NZ 2175 0380	35695-35940
216	-	-	Moulton CP	NZ 2174 0401	35650-36070
217	-	-	Middleton Tyas CP	NZ 2170 0410	36080-36320
218	-	-	Middleton Tyas CP	NZ 2167 0432	36320-36380
219	-	-	Middleton Tyas CP	NZ 2166 0445	36380-36580
220	-	Scotch Corner	Middleton Tyas CP	NZ 2151 0462	36400-36750
221	-	-	Middleton Tyas CP	NZ 2166 0461	36590-36690
222	-	-	Middleton Tyas CP	NZ 2166 0472	36690-36810
223	-	Scotch Corner	Middleton Tyas CP	NZ 2148 0488	36750-37120
224	-	-	Middleton Tyas CP	NZ 2166 0484	36810-37010
225	-	-	Middleton Tyas CP	NZ 2167 0506	37010-37120
226	-	-	Middleton Tyas CP	NZ 2168 0518	37120-37290
227	-	-	Middleton Tyas CP	NZ 2177 0528	37150-37400
228	-	Scotch Corner	Middleton Tyas CP	NZ 2146 0539	37375-37440
230	-	-	Middleton Tyas CP	NZ 2163 0549	37490-37550
231	-	-	Middleton Tyas CP	NZ 2163 0562	37550-37710
232	-	-	Middleton Tyas CP	NZ 2163 0583	37710-37960
233	-	-	Middleton Tyas CP	NZ 2163 0598	37960-38050
234	-	-	Middleton Tyas CP	NZ 2162 0619	38050-38350
235	-	-	Middleton Tyas CP	NZ 2165 0656	38350-38710
236	-	-	Middleton Tyas CP	NZ 2165 0679	38710-38880
237	-	-	Barton CP	NZ 2162 0728	39100-39610
242	-	-	Melsonby CP	NZ 2149 0794	39920-40100
243	-	-	Melsonby CP	NZ 2148 0806	40100-40140
246	-	Scotch Corner	Middleton Tyas CP	NZ 2148 0592	37790-38160
247	-	Scotch Corner	Middleton Tyas CP	NZ 2152 0621	38160-38390
251	-	Kneeton Hall	Middleton Tyas CP	NZ 2151 0698	38940-39060
258	-	Scotch Corner	Middleton Tyas CP	NZ 2148 0562	37490-37850
259	-	Killerby	Killerby CP	SE 2527 9575	26300-26650
261	-	Low Street	Kirkby Fleetham with Fencote CP	SE 2580 9481	25180-25550
262	-	-	Kirkby Fleetham with Fencote CP	SE 2601 9451	24800-25180
263	-	-	Brompton-on-Swale CP	NZ 2188 0228	34220-34740
265	-	Scotch Corner	Middleton Tyas CP	NZ 2137 0560	37550-37750
267	-	Scotch Corner	Middleton Tyas CP	NZ 2138 0531	37360-37380
268	-	Bainesse	Catterick CP	SE 2413 9726	28670-28950
268	A	Bainesse	Catterick CP	SE 2410 9722	28610-28650
269	-	Scotch Corner	Middleton Tyas CP	NZ 2153 0523	37200-37280

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Extensive archaeological excavations were undertaken between 2013 and 2017 during Highways England's A1 upgrade between Leeming and Barton in North Yorkshire. Remains dating from the Early Mesolithic to medieval periods have significantly developed our understanding of the role of this major (pre?)historic routeway and the people living in and travelling through its landscape.

This volume is the first of three monographs presenting the results of archaeological investigations on the A1 scheme. It contains evidence from over 300 human burials dating from the Early Bronze Age to the Late Anglo-Saxon period, discovered at 14 sites located along the road. The themes of Death, Burial and Identity are explored through synthesis of information derived from the burials and their context.

Most of the Roman period burials were associated with *Cataractonium* fort and town and nearby Bainesse and Scurragh House roadside settlements. At Bainesse, over 200 burials formed part of an extensive cemetery. Its excavation represents the largest single investigation of Roman burials in northern England during recent decades. An extensive radiocarbon dating programme, combined with Bayesian modelling, has shown that burial at Bainesse Cemetery continued throughout the Roman period and beyond, providing rare evidence of continuity from the Roman to early post-Roman periods.

Across the Roman population, unique burial practices were observed amongst a wide-ranging variety of burial rites. Such extensive variation in the treatment of the dead was not anticipated, but prompts us to ask: Who were the people being buried in these locations? Where did they come from? Why were they here? What is the reason for the differences in burial practices taking place within this limited area? These questions, and others, are addressed to explore the identity of individuals, and how cultural and socio-economic groups were represented in death.

Working on behalf of highways england

ATKINS

MORGAN SINDALL

AECOM

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